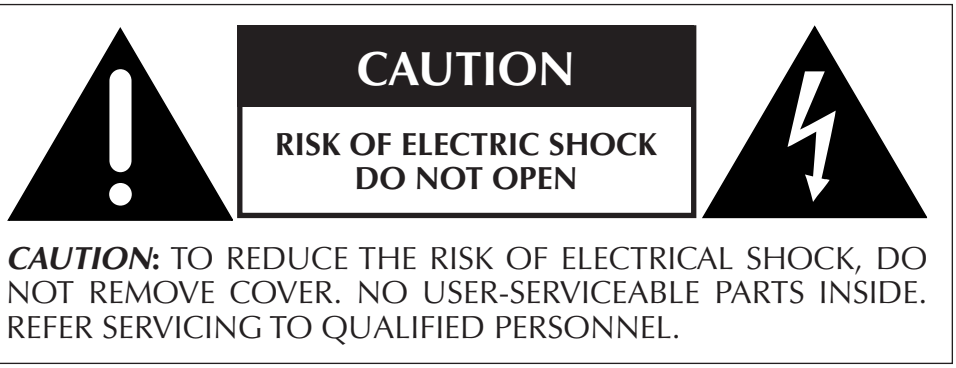
CLASSÉ

Owner's Manual
SSP-600
Surround Processor

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



NOTICE

All of us at Classé take extreme care to ensure that your purchase will remain a prized investment. We are proud to inform you that all Classé components have been officially approved for the European Community (CE) mark.

This means that your Classé product was subjected to the most rigorous manufacturing and safety tests in the world. The CE mark certifies that your purchase meets or exceeds all European Community requirements for unit-to-unit consistency and consumer safety.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and the receiver;
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This product incorporates copyright protection technology that is protected by U.S. patents ad other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

The information contained in the manual is subject to change without notice. The most current version of this manual will be posted on our web site at http://www.classeaudio.com.

Marking by the "CE" symbol (shown left) indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community.

Classe products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheelie bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.

Please record the serial number for your new Classé component here for future reference.

Serial #: _____

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12.  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.

 The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage " within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture .

Contents

Welcome to the Classé family

Congratulations on your purchase of a Classé product. It is the result of many years of continuous refinement, and we are sure that you will enjoy it for many years to come.

We value our relationship with our customers. Please allow us to stay in touch with you by returning your warranty card now, before you pack up the shipping carton of your new product and forget all about it. Doing so will enable us to let you know about any possible future upgrades or updates that might become available for your Classé component.

Sending in your warranty card also registers your product with us so that warranty service can be obtained easily and quickly, even if you have mislaid your original sales slip.

You will find the warranty registration card at the end of the separate warranty policy booklet, enclosed.

Please take a few minutes to fill out the warranty registration card and drop it in the mail. Or if you prefer you may register your purchase online at www.classeaudio.com.

Unpacking and Placement

unpacking your surround processor

Carefully unpack your surround processor according to the supplied instructions, and remove all accessories from the carton.

Important!

Keep all packing materials for future transport of your Classé product. Shipping your new component in anything other than its purpose-designed packing material may result in damage that is not covered by the warranty.

placement

As with any surround processor, it is best to place the SSP-600 centrally within your system, since it is the hub to which all other components are connected. It should also be located at a convenient height for both visibility and use, since you generally interact with your surround processor more than any other component (changing inputs, adjusting volume, etc.).

Note that adequate clearance for the AC cord and connecting cables must be left behind the SSP-600. We suggest leaving eight inches (20 cm) of free space behind your surround processor to allow all cables sufficient room to bend without crimping or undue strain.

Classé recommends that the unit not be placed directly on the top surface of a power amplifier (or any other heat source).

ventilation

Your Classé surround processor generates a certain amount of heat in the course of normal operation. Be sure to allow three inches of clearance above it and three inches to each side to allow heat dissipation through air circulation. Avoid placement on soft surfaces that would restrict airflow (such as plush carpeting).

custom installations

Drawings are included in this manual to facilitate special installations and custom cabinetry (see the section *Dimensions*). An optional, purpose-designed rack mount kit is available for this product. Contact your Classé dealer for more information.

serial number

The serial number for your surround processor is found on the rear of the unit. Please note and record this number on the page entitled *Important Safety Instructions* for your future reference.

register your purchase!

Having found the serial number, now would be a good time to fill out the registration card. Please register your purchase so we can advise you of updates and other items of interest.

It will take only a minute or so. Please complete the card now, before you forget.

warm up/break-in period

Your new Classé surround processor will deliver outstanding performance immediately. However, you should expect to hear it improve somewhat as it reaches its normal operating temperatures and its various components "break-in." It has been our experience that the greatest changes occur within the first 300 hours, as the surround processor reaches thermal equilibrium and the capacitors fully form. After this initial break-in period, the performance of your new product should remain quite consistent for years to come.

The only exception to this rule is if the unit is unplugged for an extended period of time, allowing it to cool down. Depending on the degree of cooling involved, you should expect a brief warm-up period before the surround processor's sound quality is at its best. Unless your surround processor was allowed to become quite chilled, subsequent thermal re-stabilization should not take long. Fortunately, you should never have to repeat the initial 300 hour break-in period.

please read this manual…

Please take a few minutes to review this manual, and to familiarize yourself with your new surround processor. We understand that you are anxious to plug everything in and get started. However, reading this manual and following the advice it gives will ensure that you get all the benefits you deserve from having purchased such a fine piece of equipment.

Operating Voltage

The SSP-600 surround processor is set at the factory (internally) for 100V, 120V, 230V, or 240V AC mains operation, as appropriate for the country in which it is to be sold. (230V only in European Union countries, in compliance with CE regulations.) The voltage setting may not be changed by the user.

Make sure that the label on the rear panel of your surround processor indicates the correct AC operating voltage for your location. Attempting to operate your surround processor at an incorrect voltage may damage the unit.

Warning:

The voltage setting of your surround processor may not be changed by the user. There are no user-serviceable parts within the unit. Please refer any problems to an authorized Classé service center.

If the AC mains voltage indicated on your surround processor is incorrect, please contact your local, authorized Classé dealer or distributor.

The SSP-600 can easily be powered by a normal 15-ampere AC mains line. If other devices are also powered from the same AC line, their additional power consumption should be taken into account.

The SSP-600 includes protection circuitry that will prevent the surround processor from operating at dangerously high or low voltages.

- **At startup:** the AC mains voltage must be within a range of approximately -15% to +10% of its nominal value at startup, or the surround processor will not turn on. For example, a 120V unit requires the AC mains to be between approximately 95V–135V in order to turn on.
- **Overvoltage during operation:** if the AC mains voltage surges by roughly 10% or more during operation, the surround processor will enter protection mode and shut down. The standby LED (Light-Emitting Diode) will flash to indicate the protection mode has been engaged. An error message will be displayed on the LCD touchscreen.
- **Under-voltage during operation:** if the AC mains voltage sags by 15% or more, the surround processor will continue to play (since this does not present a particular danger to the surround processor), but note that it may not be able to achieve its usual standard of performance under these compromised conditions. The standby LED will flash to indicate the condition.

A Word About Installation

Every effort has been made to make the Classé SSP-600 simple and straightforward to install and use.

Still, we have no way to evaluate other variables such as the size and shape of your room, its acoustics, and the associated equipment you have chosen to use with your surround processor. All of these factors influence the ultimate performance of your system.

For this reason, we strongly encourage you to have your system installed and calibrated by your dealer, whose experience, training, and specialized equipment can make a profound difference in the final performance of the system.

Special Design Features

high-bandwidth video circuitry

Modern high definition video sources provide truly stunning picture quality. However, the technical requirements of passing these remarkable signals along to the display are quite challenging.

In recognition of the degradations that normally occur when passing these pristine signals through circuitry that is often not up to task, many videophiles connect all their video sources directly to their video displays. Unfortunately, doing so means switching inputs separately on the audio and the video gear, which is tedious to say the least.

Your new Classé surround processor incorporates professional-quality video circuitry that has both the extraordinary bandwidth and the requisite dynamic range to handle even the most demanding video signals in the HDTV standard. This preserves simple everyday operation of the system, since now all video and audio signals are routed through a single controller. Just as importantly, it does so without any compromise in picture quality.

transcoding

The SSP-600 will receive standard, interlaced composite, S-video, and component signals and transcode (convert) them to provide all of those formats simultaneously to its various video outputs. It will convert signals "up" or "down" as needed to ensure that all outputs are active, all the time, regardless of input signal. *(Note, however, that the SSP-600 does not change frame rates or broadcast standards, e.g., we do not convert from 60 fps NTSC to 50 fps PAL or vice versa.)*

Also, progressive input signals cannot be routed to the remote zone, since the remote zone receives a composite signal. (There is no such thing as a progressive composite signal.) If you have a progressive source, we suggest connecting both its progressive output (for use in the main zone, without any further signal processing) and its S-video or composite output (for use in the remote zone).

THX Ultra 2®

THX® is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, in both movie theaters and in your home theater, as faithful as possible to what the director intended.

Movie soundtracks are mixed in special movie theaters called dubbing stages, and are designed to be played back in movie theaters with similar equipment and conditions. This same soundtrack is usually then transferred directly onto DVD and other distribution formats, and is not changed for playback in a small home theater environment.

THX engineers developed patented technologies to accurately translate the sound from the movie theatre environment into the home, correcting the tonal and spatial errors that occur. With your SSP-600, when the THX indicator is on, the following THX features are automatically added:

Re-Equalization™

The tonal balance of a standard film soundtrack will be excessively bright and harsh when played back over high quality audio equipment in the home because film soundtracks were designed to be played back in large movie theatres using very different professional equipment. Re-Equalization restores the correct tonal balance for watching a movie soundtrack in a small, home environment.

Timbre Matching™

The human ear alters our perception of a sound based on the direction from which the sound is coming. Thus two identical sounds arriving from different directions sound somewhat different to us (based on the asymmetrical shape of our ears). In film soundtracks, this can introduce discontinuity as sounds pan from the front to the rear of the room, even if the speakers themselves are quite well-matched.

The Timbre Matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

Adaptive Decorrelation™

In a movie theater, there is an array of perhaps a dozen surround speakers so that the surround information is literally all around you. This creates a diffuse surround soundfield that envelopes you, drawing you into the action on the screen rather than distracting you from it.

By contrast, in a home theater you often use only two speakers, located to the sides and somewhat behind you. Even in more elaborate "7.1 channel" systems, you still have only two speakers to the sides and two speakers to the rear – quite different than the surround array for which the soundtrack was mixed. This difference can make the surround speakers sound like headphones, lacking spaciousness and envelopment. The surround soundfield also tends to collapse into the closest speaker as you move away from the middle seating position.

Adaptive Decorrelation™ – another THX technology – slightly changes each surround channel's time and phase relationship with respect to the other surround channels. This expands the listening position and helps create – even with only two surround speakers – the same spacious surround experience as in a movie theater.

Advanced Speaker Array™

The people at THX have also found a solution to a problem that dogged high performance multichannel systems for years: the apparent conflict between optimal music and movie setups.

You see, movies are mixed in highly standardized environments, with even spaced surround speakers in an array designed to provide a diffuse, enveloping soundfield. Their goal is to draw you into the movie on the screen. If the surround sound tempts you to look over your shoulder, the system has failed: it has reminded you that you are safe in your living room rather than "in" the movie you are watching.

By contrast, most multichannel music is mixed with a single pair of surround speakers aimed directly at the listener from behind. Many music mixers deliberately place particular instruments or musicians in these locations, and want you to feel as though you are "in the middle of the band." Thus, a diffuse, non-localizable soundfield is not what you might like for the most accurate reproduction of the musical producer's intent.

THX Ultra 2 solves this apparent dilemma by the innovative use of a special surround array that can provide either highly diffuse surround sound (for movies) or highly localizable surround sound (for music), without having to reposition any loudspeakers. The Advanced Speaker Array™ places a pair of surround speakers to the sides of the listener, and another pair directly behind the listener (and as close to each other as practical). Through the use of sophisticated digital signal processing (DSP), this array can create the audible illusion of either many speakers surrounding you on all sides, or only a single pair of speakers behind you and spread apart as you might normally expect.

THX Ultra 2 Music Mode

By using the technology in ASA (described above), the THX Ultra 2 Music mode optimizes the performance of the speakers in the system for multichannel music – whether found on a concert video DVD, a DVD-Audio disc, or a multichannel SACD disc.

When in THX Ultra 2 Music mode, ASA creates the illusion of a single pair of surround speakers located at ±30° from directly behind the primary listening position. This simulates the most common configuration found in multichannel music recording studios, and provides the best-possible recreation of the experience the music producer had when mixing the recording.

There are other changes as well (for example, the Re-Equalization circuit is not employed, since the music was not mixed with large movie theaters in mind) – but the bottom line is that the THX Ultra 2 Music mode does a terrific job of optimizing the performance of your system for multichannel music reproduction, with the touch of a button.

THX Ultra 2 Cinema Mode

As you might expect, the THX Ultra 2 Cinema mode does a similarly terrific job of optimizing the system for accurate reproduction of movie soundtracks.

When in THX Ultra 2 Cinema mode, ASA creates a diffuse soundfield that emulates the much larger array of surround speakers found in a state of the art commercial theater. Of course, Re-EQ, Adaptive Decorrelation, and Timbre-Matching are all employed to compensate for the differences between an excellent commercial theater and your room at home. Once again, a single selection can fully optimize your system for a significantly different task: reproducing movies as they were intended to be experienced.

Boundary Gain Compensation

Most speakers are designed to sound their best when placed out well away from the walls. This placement usually offers the best imaging and overall performance.

However, this placement is often not practical in multi-purpose rooms that are used for home entertainment. Speakers end up pushed back close to the walls so as to make more room for the people who live in the house. Unfortunately, this change in placement reinforces frequencies from the mid-bass down to the deepest bass. While few people would object to having a little extra deep bass, the boosted mid-bass makes male vocals sound "chesty," "congested" or "boomy."

flexible GUI

The LCD touchscreen on the front panel of your new component supports an extremely flexible and versatile graphical user interface (GUI) while maintaining a clean, uncluttered appearance. The SSP-600 provides a range of controls that might otherwise require dozens of buttons and knobs on the front panel. Despite this power and flexibility, it remains simple to operate in day-to-day use.

In fact, in some ways it is even simpler to operate than a more conventional design might be. For example, if you are not using one or more of the inputs on your SSP-600, you can delete the unnecessary buttons from the operational menu. Doing so prevents anyone from trying to select a nonexistent source component, with the resulting confusion stemming from the lack of any sound. *(Of course, you can easily restore the button if you subsequently add another source component and need that input.)*

customizable volume control

The volume control on your new Classé surround processor is controlled by sophisticated software that allows you to fine-tune its response to suit your preferences.

Ideally, a volume control would allow you to reach the volume you desire quickly, and would also provide extremely fine control once you are close to the "perfect" volume. Of course, these characteristics are in conflict with each other: one requires the volume to change by quite a lot for a given amount of turning of the knob, while the other requires small, incremental changes for the same turn of the knob.

The volume control system on your SSP-600 solves this problem by responding differently based on the specific circumstances (e.g. how quickly you are turning the knob and where in the volume range you are). After extensive testing, we feel we have created factory default settings that most people will find intuitive and a real pleasure to use. However, if you feel you would like to fine-tune its performance further in order to suit your particular preference, you may easily do so.

highly refined circuit design

All Classé analog amplification stages are based on circuits that have been extensively optimized over many years of continuous development.

By starting with excellent circuit designs and working with them over the years, we are able to discover the many small refinements that add up to superlative performance, in a variety of applications. Altering a voltage here, or using a slightly different part there, may make all the difference between solid and absolutely outstanding performance.

This level of refinement only comes with a great deal of experience, and is not available to those who flit from one trendy notion to the next. It accounts in no small measure for both the consistency of sonic performance among Classé products (as they are all based on similar analog gain stages), and for the consistently excellent reviews these products receive from owners and reviewers alike.

extensive listening tests

Excellent measured performance is to be expected in world-class products, and Classé products deliver that performance. However, experience has shown that technical excellence alone is insufficient to guarantee subjectively musical results.

For this reason, all Classé products are laboriously fine-tuned during the development process by carefully controlled listening tests. Our ears are still some of the finest laboratory test instruments available, and nicely complement more traditional engineering test equipment. In the course of optimizing the circuitry for a product, hundreds of decisions are made based on the subjective impression given by substituting one high quality part for another.

As an example, we may listen to half a dozen 0.1% tolerance film resistor components of the same value, from several different companies. Standard tests may show them all to provide identical results in terms of noise, distortion, and so forth. Yet, almost invariably, one selection yields some small improvement in the subjective reaction to the performance of the product under development. Less often, even a single such change can result in a surprisingly large improvement.

Multiply those various improvements by the dozens or even hundreds of such decisions that must be made before the product can be finalized for production, and you have a remarkable improvement, indeed – all based on careful listening tests, which we view as a necessary complement to the solid engineering you might rightly expect from Classé.

extraordinary longevity

Another benefit of having worked with highly refined circuit designs so extensively over many years is that we have vast experience in what works well over the long term.

By using only the highest quality parts to begin with, and then using them in an informed way as a result of both accelerated aging experiments and actual long-term experience, we are able to design and manufacture products which we are confident will stand the test of time.

We are confident that your new Classé surround processor will give you many years of trouble-free reliability and musical enjoyment, just as previous Classé products have given their owners.

Initial Setup

We understand that you may be anxious to begin enjoying your new surround processor. Our best advice: take advantage of the considerable experience your Classé dealer offers to make sure you get all the performance you deserve.

However, if you want to set up your new system yourself, this section is designed to get the system up and running quickly. Following the steps outlined below will not fully optimize your system, since doing so involves optimizing everything in the system – not merely your surround processor. But we can get you off to a good start, assuming that the rest of the system is approximately as it should be.

Your new SSP-600 is delivered with default factory settings which this section will use to make your initial task simpler. Please note that these default settings cannot deliver all the performance and functionality that the SSP-600 offers in your particular system. For a full understanding of the capabilities of your new surround sound preamplifier/processor, you should still read the rest of this manual – particularly the section describing the menu system.

1 **Plug everything into the AC mains, but make sure everything is off or in standby.**
By plugging everything into the wall, you ensure that every component is grounded and lessen the chances of a static discharge damaging delicate electronics. However, it is important that everything be turned off before you begin, especially the power amplifiers. You do not want a transient from making a connection to be amplified by your power amplifiers and sent to the speakers.

2 **Connect your source components to the SSP-600.**
By default, the **INPUT1** button is associated with the **LINE1** analog audio connection. **INPUT2** button with **LINE2**, **INPUT3** button with **LINE3**, etc. Analog audio sources such as tuners should be connected to any available **LINE** connectors. Make a note of where you are connecting your various sources.

3 **Connect your SSP-600 to your power amplifier(s).**
Connect the **Main Outputs** of the SSP-600 to the corresponding inputs on your various amplifier channels, being careful not to mix them up. In particular, make sure the **SUB** output is sent only to an appropriate subwoofer – the extremely low frequencies often sent from the **SUB** output could damage a small speaker that was not designed for those frequencies.

4 **After making sure that the amplifiers are off or in standby, connect them to the appropriate loudspeakers.**
Pay close attention to the phase of the speaker connections. Always connect red (+) terminals to red (+) terminals, and black (–) terminals to black (–) terminals.

5 Now you are ready to power up your new SSP-600 and its associated amplifiers.

Note that the initial power up takes approximately 90 seconds, during which time the blue LED on the standby button will flash.

After approximately 45 seconds the LCD screen will display "initializing, please wait…." Once this period is complete the LED light will remain on while the LCD screen goes into standby mode.

A simple touch of the LCD screen will wake up the SSP-600 from its standby mode. The LCD touchscreen will now display a blue screen titled "initializing" for a further 15 seconds.

6 Connect the supplied calibration microphone to the MIC input on the rear of the SSP-600, and use the auto-calibrate function of the SSP-600 to finish your initial setup.

The auto-calibrate function of the SSP-600 can be found by touching the following on-screen "buttons" in the LCD display, in this order:

- Path: MENU/system setup/speakers/position 1/autocalibration
- touch auto levels (and wait for the autocalibration to finish)
- touch auto delays

Hold the microphone upright at arm's length so that it is approximately where your head would be when seated at your preferred listening position, and pointed at the ceiling.

Pink noise (at a low level) will automatically begin from the left front speaker and rise slowly in volume. The SSP-600 generates this noise, listens through the microphone, then increases the signal level gradually until the Sound Pressure Level at the listening position is 75 dB. The SSP-600 will test every speaker in the same sequence as described above and set their levels to 75 dB.

SPECIAL NOTE FOR SUBWOOFER

We have observed that, depending on the acoustics of your listening space, the subwoofer distance auto-calibration may fail or return unreasonable results. If this happens try one of the following solutions: If the subwoofer level was very soft during the first pass of the auto-calibration process, increase it a bit to make the signal more audible. Try raising the crossover frequency of the subwoofer (in the Audio Setup menu) or turning the subwoofer filter off (which will make the selected crossover frequency irrelevant). If all these measures fail, you will have to enter the subwoofer distance manually through the Distance Setup menu.

Note: at this time you will only need to enter the manual level and distance values for the subwoofer. All other speaker values will remain accurate.

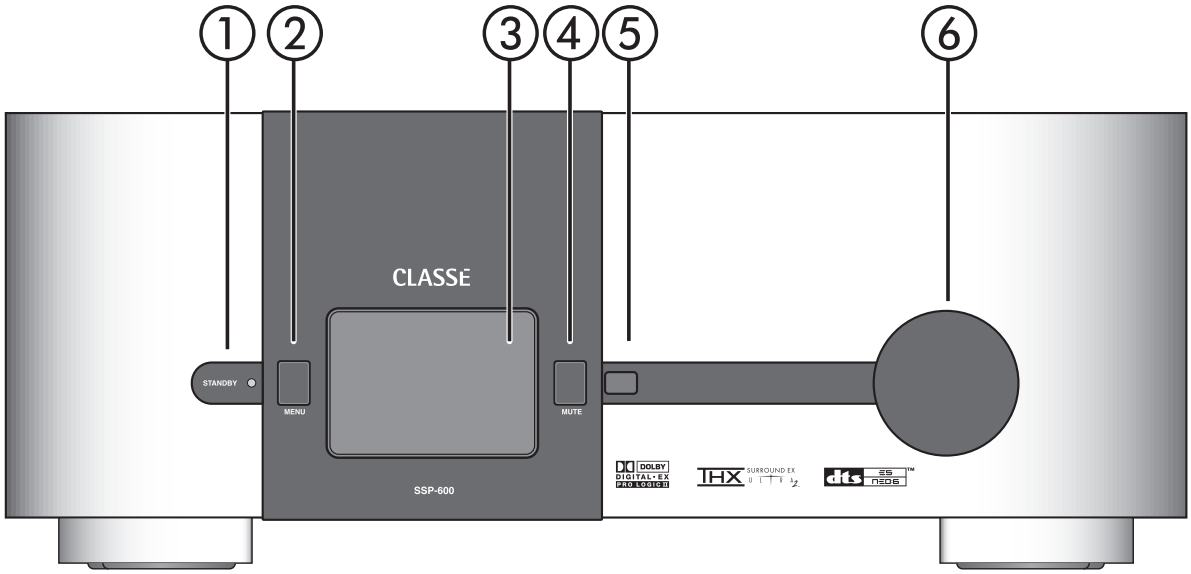
To optimize speaker setup we suggest entering all speaker levels and distances manually.

7 Please take a moment to read the rest of this manual.

It is important that you become familiar with the full capabilities of your new surround processor if you are to get maximum value from your purchase. (Alternatively, you may prefer to have your dealer perform a comprehensive installation of the system, leaving the technical details to the professionals.)

For example: the default settings of the bass management system in the SSP-600 are to divert any bass below 80 Hz, in any channel, to the subwoofer output. This is a reasonably safe choice, since few loudspeakers that are likely to be used with equipment of the SSP-600's caliber are going to be stressed by these settings.

However, these settings may not be optimal for your particular loudspeaker system. Your dealer can assist you in determining the best configuration of the bass management system for your specific situation.



Front Panel

1 Standby button & LED indicator

The front panel **Standby** button will toggle the surround processor between its fully operational status and a standby mode that leaves the surround processor off, yet ready to respond to system commands via any of the supported control options (e.g. IR input, DC trigger, CAN Bus, or RS-232).

The current state of the surround processor is indicated by the LED on the standby button on the front panel. When the unit is powered and switched on, this LED indicates the following:

- On = *standby*
- Flashing *(on power-up)* = *initialization*
- Off = *operate*
- Flashing *(after power-up)* = *AC mains voltage out of range*

If you are planning not to use the surround processor for an extended period of time, e.g. vacation or other travel, we suggest you disconnect it from the AC mains. Please be certain that the surround processor is in *standby* prior to disconnecting it from the AC mains.

Also, it is a good practice to physically disconnect any and all valuable electronics from the AC mains during electrical storms, as a lightning strike anywhere near your home can put a tremendous surge on the AC mains that will easily jump across a simple power switch. The resulting surge (which may be many thousands of volts) can damage any piece of electronics, no matter how well designed and protected. The best protection in the case of severe electrical storms is simply to remove the electronics from any connection with the power grid.

2 Menu button

Pressing the front panel **Menu** button will call up the menu system, replacing the normal status display in the LCD touchscreen of the SSP-600.

3 LCD touchscreen

Much of your interaction with the SSP-600 will be with the LCD touchscreen (and the SSP-600's supplied remote control). It will usually display the various input selection buttons you would use in day-to-day operation, along with access to the **tape monitor** button.

By pressing the **Menu** button, you can also call up the menu system of the SSP-600, which gives you control over many of the operational details of the surround processor, including system setup options, various *display* options (including the *language* in which the menu system itself displays), and several custom-installation capabilities that allow superior integration of the SSP-600 into complex systems.

For more information, see the section *The Menu System* later in this manual.

4 Mute button

The front panel **Mute** button reduces the volume of the surround processor to zero at the touch of a button. Pressing the button a second time restores the volume to its previous setting. The behavior of the mute can also be customized. Setup information on this feature is available in the Volume Setup section.

However, if you increase the volume manually (using either the **volume knob** or the **remote control**) while the **Mute** button is engaged, the mute control will disengage and the volume will be reset to zero. This approach is a safety measure, to avoid situations in which the volume might be adjusted up while muted, only to then have the system un-muted to an unexpectedly high volume.

5 IR window

The infrared (IR) receiver and transmitter are located behind this window. Ordinarily, your Classé SSP-600 must be able to "see" the remote control from this window in order to respond to remote control commands.

If your surround processor will be located behind closed doors, or for any other reason will not be able to "see" the remote control during normal operation, you may use the rear panel IR input and an infrared repeater system to solve the problem. For more information about using an infrared repeater system to route signals to the SSP-600, refer to the section *Rear Panel* later in this manual, or contact your local Classé dealer.

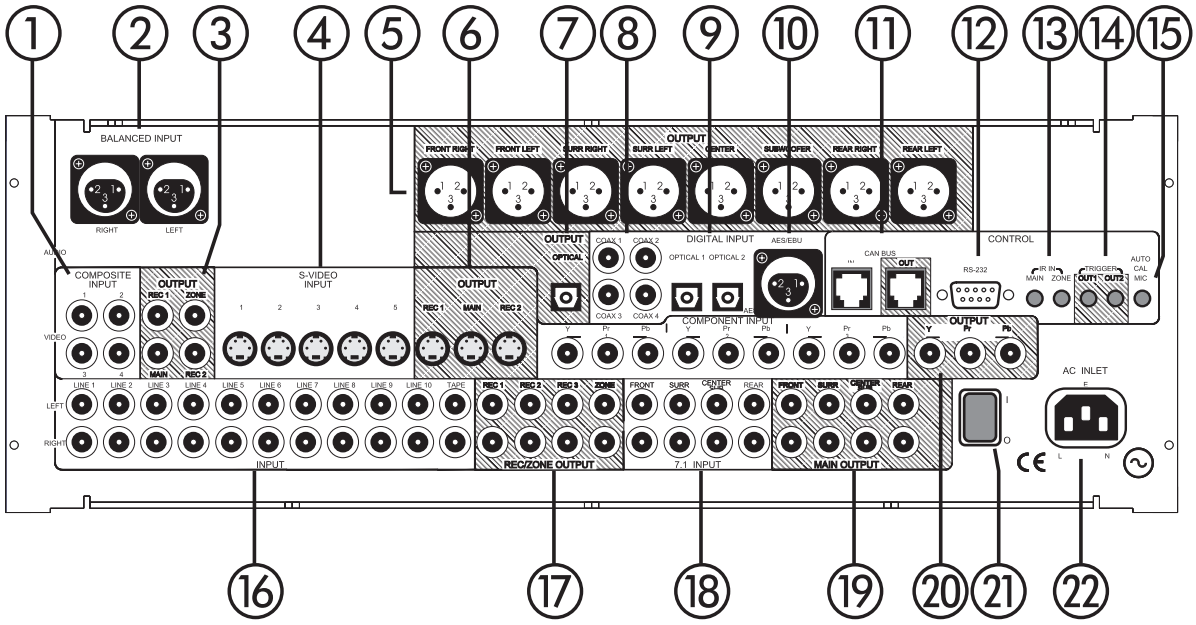
In addition to receiving IR commands, the SSP-600 can also transmit IR commands so they may be learned by third-party learning remote controls. The SSP-600 includes a comprehensive list of discrete IR commands to facilitate the creation of reliable macros. Specifically, there are discrete codes for all commands that normally operate as "toggle" functions (e.g. separate *operate* and *standby* commands in addition to the normal command that toggles between the two).

6 Volume Knob

The large knob on the right side of the front panel of the SSP-600 is used to control the volume of the system.

The volume is raised or lowered in precise 1dB increments throughout the range of the control most likely to be used while listening to music.

At extremely low volumes, the step size is increased somewhat to make it easier to move quickly between extremely low and normal listening levels.



Rear Panel

The table below shows the three types of inputs of the SSP-600 and which outputs can be used. The ✔ symbol indicates a signal is available, the ✘ symbol indicates a signal is not available. For example, with a Component Input an S-Video signal is available from the Main output, but not from the Rec 1 or Rec 2 output. See the following information on the various inputs and outputs for more detailed information.

	Component Input	S-Video Input	Composite Input
S-Video Out			
Main	✔	✔	✔
Rec 1	✘	✔	✘
Rec 2	✘	✔	✘
Composite Out			
Main	✔	✔	✔
Zone	✘	✔	✔
Rec 1	✘	✔	✔
Rec 2	✘	✔	✔
ComponentOut			
Output	✔	✔	✔
Bypass	✔	N/A	N/A

1 Composite Video Inputs

The SSP-600 supports up to four composite video input signals. These connections are labeled **COMPOSITE INPUT 1, 2, 3,** and **4**. All these inputs are converted to both S-video and Component video as needed for viewing on the **MAIN** output.

Connect the composite video output of your source component to the appropriate composite video input of the SSP-600 using high quality 75Ω video cable for the best results. Your Classé dealer can assist you in making an appropriate cable selection.

Note that the three analog video standards offer varying degrees of performance:

- Component video offers the highest picture quality
- S-Video is second-highest in picture quality
- Composite video offers the lowest picture quality

For this reason, you are advised to use component video connections whenever possible, and S-video connections when component is not available. Composite video connections should be used when the other options are not available, or on less critical sources (e.g., a VHS video cassette recorder, or perhaps a video game).

2 Balanced Analog Audio Input

Connect the right-channel and left-channel balanced outputs of your source components to the corresponding balanced inputs on the SSP-600.

The pin assignments of these XLR-type female input connectors are:

Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal – (inverting)
Connector ground lug: chassis ground

These pin assignments are consistent with the standards adopted by the Audio Engineering Society. Refer to the operating manuals of your balanced-output line-level sources to verify that the pin assignments of their output connectors correspond to the SSP-600. (This is not necessary if the source component in question is also made by Classé.) If not, wire the cables so that the appropriate output pin connects to the equivalent input pin.

Please note that while using the balanced analog bypass mode, all single-ended main outputs are muted.

3 Composite Video Outputs

The SSP-600 provides multiple composite video outputs to support different purposes.

- The **REC 1** and **REC 2** outputs are used to send the selected video signal to a video recorder such as a VCR or a Digital Video Recorder (DVR) for recording. For your convenience, all incoming S-video signals are converted to composite for possible recording via this output. Since the presumption is that you are recording some program for your personal video library, no OSD is ever superimposed on the video signal on either **REC** output.
- **ZONE** supplies the selected video signal to a remote zone within your home, allowing the system to feed two separate areas of your home with independent home entertainment signals from the single, main system. (If this idea interests you, we suggest you speak with your authorized Classé dealer about multi-zone systems for your home.) For your convenience, all S-video signals are converted to composite for possible distribution via this output.
- **MAIN** provides the selected video signal for the primary zone (your home theater) to your main display, and will superimpose an On Screen Display as needed. This "OSD" provides the same information as the LCD screen on the SSP-600 itself, making operation of the system from anywhere in the room considerably easier.

4 S-Video Inputs

The SSP-600 supports up to five S-video input signals, labeled **S-VIDEO INPUTS 1-5**. All these inputs are converted to both Composite video and Component video as needed for viewing on the **MAIN** output.

Connect the S-video output of your source component to the appropriate S-video input of the SSP-600 using high quality S-video cable for the best results. Your Classé dealer can assist you in making an appropriate cable selection.

Note that the three analog video standards offer varying degrees of performance:

- Component video offers the highest picture quality
- S-Video is second-highest in picture quality
- Composite video offers the lowest picture quality

For this reason, you are advised to use component video connections whenever possible, and S-video connections when component is not available. Composite video connections should be used when the other options are not available, or on less critical sources (e.g., a VHS video cassette recorder or perhaps a video game).

5 Balanced Main Analog Audio Outputs

Balanced connections between components provide the highest possible quality analog signal connection. This is due to both the effective doubling of the strength of the signal being transmitted and (even more importantly) to the significant improvement in immunity from noise as compared to normal, "single-ended" designs. These changes result in a significant improvement in transparency and detail, as well as improved dynamics.

Using high quality cables, connect the balanced outputs of your SSP-600 to the balanced inputs on your power amplifier. Your Classé dealer can assist you in selecting cables appropriate for your system.

The pin assignments of these XLR-type male output connectors are:

Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal – (inverting)
Connector ground lug: chassis ground

These pin assignments are consistent with the standards adopted by the Audio Engineering Society. Refer to the operating manuals of your balanced-input power amplifiers to verify that the pin assignments of their input connectors correspond to the SSP-600. (This is not necessary if the you have Classé power amplifiers.) If not, wire the cables so that the appropriate output pin connects to the equivalent input pin.

6 S-Video Outputs

The SSP-600 provides multiple S-video outputs to support different purposes.

- **REC 1** and **REC 2** are used to send the selected video signal to a video recorder such as a VCR or a Digital Video Recorder (DVR) for recording. Since the presumption is that you are recording some program for your personal video library, no OSD is ever superimposed on the video signal on either **REC** output.
- **MAIN** provides the selected video signal for the primary zone (your home theater) to your main display, and will superimpose an On Screen Display as needed. This "OSD" provides the same information as the LCD screen on the SSP-600 itself, making operation of the system from anywhere in the room considerably easier.

7 Optical Digital Audio Output

This optical digital output allows you to distribute a digital source in its original, unprocessed digital form. For example, if you had another multichannel system elsewhere in the home, you could forward a Dolby Digital bitstream to the other system from this one—running a *single* digital cable instead of *five or six* analog cables for surround sound applications.

Alternatively, you could use this digital output to make digital recordings. Note that this output simply passes whatever signal has been selected – you should only make copies of recordings for which you have legal rights to do so. It is your responsibility to comply with copyright law.

8 Coaxial Digital Inputs

These four inputs accept digital audio signals conforming to the 75Ω S/PDIF digital interface standard (via 75Ω cables equipped with RCA-type connectors) from a digital satellite receiver, compact disc, DVD player or other digital source component. Connect the 75Ω S/PDIF output of your source component to any of these inputs, using high quality 75Ω cable. Your Classé dealer can assist you in making an appropriate cable selection.

9 Optical Digital Inputs

These connectors accept digital audio signals in the EIAJ optical (sometimes called "Toslink™") digital interface standard from a digital satellite receiver, compact disc, DVD player or other digital source component. Connect the optical digital output of your source component to either of the EIAJ optical inputs using a high quality EIAJ optical cable. Your Classé dealer can assist you in making an appropriate cable selection.

10 AES/EBU Digital Input

This input accepts digital audio in the professional 110Ω AES/EBU digital interface standard (via a cable equipped with XLR-type connectors) from a digital satellite receiver, compact disc, DVD or other digital source component. Connect the AES/EBU digital output of your source component to the AES/EBU input of the SSP-600 using a high quality 110Ω AES/EBU cable. Your Classé dealer can assist you in making an appropriate cable selection.

The pin assignments of these AES/EBU XLR-type female input connectors are:

Pin 1: Shield
Pin 2: Digital + (non-inverting)
Pin 3: Digital – (inverting)
Connector ground lug: chassis ground

These pin assignments are consistent with the standards adopted by the Audio Engineering Society and the European Broadcast Union. Refer to the operating manual of your digital source to verify that the pin assignments of its output connector corresponds to the SSP-600. If not, wire the cable so that the appropriate output pin connects to the equivalent input pin.

11 Classé CAN Bus Control Ports

These RJ-45 connectors are reserved for future control and communication applications using Classé Audio's implementation of the Controller Area Network (CAN) Bus specification.

12 RS-232 Control Port

This port has two purposes:

- downloading new operating software into your surround processor (should new features ever be added).
- external control of your surround processor by systems such as i-Command™, AMX® and Crestron™.

For more information, please contact your dealer and ask about home automation systems.

13 IR Input: Main and Zone

Your Classé surround processor includes two 1/8th-inch **mono mini-jacks** to support the infrared (IR) remote controls that are ubiquitous today. Infrared commands exist (for example) for *toggling* the surround processor between *operate* and *standby*, in addition to discrete command codes for either *operate* or *standby*. These codes may be used in "macros" for sophisticated remote control systems, facilitating the control of the surround processor in the larger context of a complete system.

The SSP-600 has two separate IR inputs, one for the **MAIN** system and one that addresses only the functions of the remote **ZONE**. IR commands routed to either input will be interpreted as intended to affect only that section of the SSP-600.

For example, if you send a command to change the input to the DVD player, routing it to the **ZONE IR IN**, only the remote **ZONE** will change to the DVD input. The **MAIN** system will be unaffected.

The list of commands available is quite extensive, enabling even complex *macros* (chains of commands strung together) to operate flawlessly. If this capability is of interest to you, we strongly recommend discussing it with your authorized Classé dealer.

The surround processor is designed to respond to IR commands of 5 Vdc, with the tip of the mini-plugs defined to be positive relative to the shank of the plug.

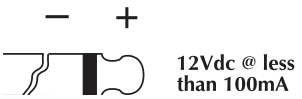
Note: The Classe Delta series IR inputs respond to an "idle-high, active-low" signal. Please ensure that any third party IR control systems are configured accordingly.

14 DC Trigger Outputs

Many audio/video components can supply a DC control voltage to associated equipment in order to induce desired behavior.

Two 1/8th-inch **mono mini-jacks** provide individually controllable DC trigger outputs which can be used for any of a number of purposes, as described in *The Menu System*. For example, your dealer can program **Trigger Out1** to toggle your Classé power amplifier between *operate* and *standby* with your SSP-600.

The trigger outputs will create a 12Vdc signal that can support up to 100mA of current.



15 Microphone Input

The **MIC** input on the rear of the SSP-600 is used during auto-calibration of the system.

For a quick setup, connect the supplied microphone to this input and follow the procedure outlined in the *Initial Setup* section of this manual.

For more details, please refer to *The Menu System*, later in this manual.

16 Analog Audio Inputs

These RCA jacks accept right-channel and left-channel (single-ended) inputs from line-level source equipment such as tuners, CD players, and tape decks. Any of these inputs may be selected by touching the corresponding button on the main operational screen of the front panel touchscreen.

To achieve the best possible results, we suggest that you use only high-quality shielded interconnect cables. Please consult with your local Classé dealer for advice on the best cables for use in your system.

17 Analog Audio Outputs (stereo)

Four pairs of stereo analog outputs are provided on the SSP-600.

REC1, **REC2** and **REC3** support various recording devices (both the audio portion of an A/V recorder such as a VCR or a DVR, as well as audio-only recorders such as CD-R burners).

The **ZONE** output supplies an independently selectable audio signal to a remote zone within your home, regardless of what is being listened to in the main system. If you find this idea interesting, we suggest you speak with your authorized Classé dealer about multi-zone system designs for your home.

18 7.1 Channel Analog Audio Input

A 7.1 channel analog input is provided for use with a multichannel SACD and/or DVD-Audio player. For reasons of copy protection, most such players do not provide a high-resolution digital output. Instead, they use high quality analog outputs.

In the SSP-600, these signals are passed through to the speakers with no further processing, in order to preserve the purity of the signal. When this input is selected, the SSP-600 provides only volume control (including the volume offsets used to balance all your loudspeakers to one another).

19 Single-ended Main Analog Audio Outputs

Single-ended cables using RCA connectors are the most common form of analog connection used in consumer electronics. When implemented carefully and used with high quality interconnect cables, this standard can provide excellent performance. Classé has gone to extraordinary effort to ensure that the single-ended (RCA) outputs of your surround processor are unsurpassed.

Connect these single-ended outputs to your power amplifiers using high quality RCA-terminated cables. Your Classé dealer can advise you on the selection of cables suitable for your system.

20 Component Video Inputs and Output

The SSP-600 provides three Component video inputs. These are labeled **COMPONENT INPUT 1**, **2**, and **3**.

Connect the Component video output of your source component to the appropriate Component video input of the SSP-600 using high quality 75Ω video cable for the best results.

Note:

Progressive and High Definition video sources must be connected via Component video, since Composite and S-video support only standard definition, interlaced video (480i in NTSC countries, 525i in PAL and SECAM countries).

High Definition component video signals are not "downconverted" by the SSP-600 for output on composite or S-video.

Take care to connect each of the three cables to its corresponding connector at both ends:

- **Y** is the *luminance* (the black and white portion of the signal) and is usually denoted by a green color code on the plugs and connectors.
- **Pr** is the *red difference* signal (R-Y), and is sometimes called **Cr**. It is usually denoted by a red color code on the plugs and connectors.
- **Pb** is the *blue difference* signal (B-Y), and is sometimes called **Cb**. It is usually denoted by a blue color code on the plugs and connectors.

Your Classé dealer can assist you in making an appropriate cable selection.

Note that the three analog video standards offer varying degrees of performance:

- Component video offers the highest picture quality
- S-Video is second-highest in picture quality
- Composite video offers the lowest picture quality

For this reason, you are advised to use component video connections whenever possible, and S-video connections when component is not available. Composite video connections should be used when the other options are not available, or on less critical sources (e.g., a VHS video cassette recorder, or perhaps a video game).

The Component **OUTPUT** makes the selected video signal available to your main display in a Component video format, regardless of the format in which it was received by the SSP-600. This includes both standard definition and high definition video signals.

For your convenience, all standard definition Component video signals are converted to S-video and composite video for display via this output.

BYPASS MODE: In order to preserve the highest-possible signal integrity on the Component video path, no On Screen Display is available.

21 AC Mains Power Switch

The main power switch for the SSP-600 is adjacent to the receptacle for the power cord.

Switching the unit on puts it in standby mode. The surround processor should be in standby before being switched off.

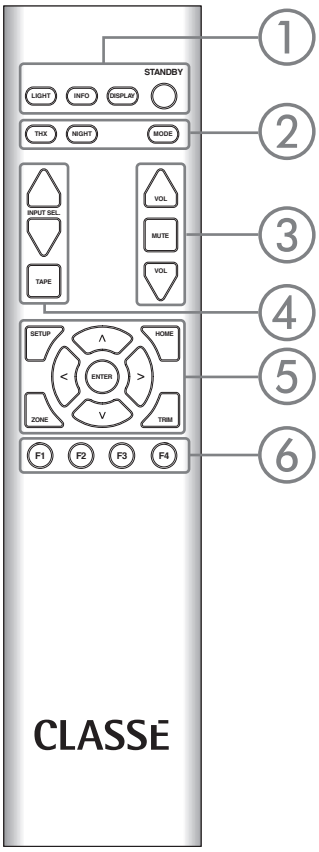
Danger!

Potentially dangerous voltages and current capabilities exist within your surround processor, even when disconnected from AC mains. Do not attempt to open any portion of the surround processor's cabinet. There are no user-serviceable parts inside your surround processor. All service of this product must be referred to a qualified authorized Classé dealer or distributor.

22 AC Mains Input

An IEC standard power cord (supplied) is used with the SSP-600. Plug the cord into the IEC receptacle provided, and the other end into a suitable wall outlet.

The Remote Control



Your new surround processor comes with a versatile remote control which can control both the SSP-300 itself and several aspects of the rest of a Classé-based system. The buttons are arranged in logical groups according to their functions.

1 Basic Functions

This section along the top of the remote control groups four functions that control your basic interactions with the SSP-300.

- **Light** switches the backlighting of the remote control on, for better visibility under low-light conditions. After a few moments of inactivity, the backlight switches off automatically.
- **Info** takes you directly to the *status* screen in the LCD menu system, displaying several items of information about the SSP-300 and its current operational status.
- **Display** cycles through the three brightness settings of the screen display.
- **Standby** toggles the SSP-300 between *standby* and *operate*.

2 Audio Processing Keys

The next row of three buttons control how the SSP-300 processes the audio signal.

- **THX** cycles through the available THX processing modes (e.g., THX Ultra 2 Cinema, THX Ultra 2 Music and THX off; the specifics depend on the input signal). This is a quick and easy way to get from whatever processing mode you may be in to the THX mode you'd like to have.
- **Night** engages and disengages the Late Night mode for Dolby Digital soundtracks, allowing you to enjoy movies with less chance of disturbing others.
- **Mode** brings up the mode select menu on-screen so you can choose from among any of the supported surround modes of the SSP-300 quickly and easily. Use the **arrow** keys to move up and down the list, and press **enter** to make your selection.

3 Volume Keys

Volume Up, Volume Down, and **Mute** do what you would expect them to do.

4 Input Selection

- The **Up** and **Down** arrow keys will cycle through the active inputs on your SSP-300. If you have inputs you are not using, we suggest deactivating them in order to provide faster, easier access to the inputs you are actually using. (See the section *The Menu Syste*m for information on how to do this.)
- The **Tape monitor** key allows you to easily toggle between listening to the selected source and listening to the output of your recording device. If you have a recording device (such as a three-head tape deck) which can play back a recording while it is being made, you will be able to compare the original signal to the recording while you are making it.

5 Navigation and Control Menu Keys

The five keys at the center of this group are the navigation keys. They are similar to what you may have seen on remote controls for DVD players, and are used to navigate of the menu systems of the SSP-300. The four keys around the navigation keys are used to directly access certain control menu screen.

- **Up/Down/Left/Right** keys allow you to move within a particular menu screen, changing the highlighted item up/down/left/right as you like, from the comfort of your listening position.
- The **Enter** key allows you to select the highlighted item, having the same effect as if you had pressed the button on the LCD touchscreen.
- The **Setup** key brings up the System Setup menu screen. From there you can access screens that customize the volume control operation, control the inputs to your particular source components, set up the loudspeaker configuration and calibration, create shortcuts to your preferred or most frequently used functions and program the behavior of the SSP-300's DC triggers.
- **Home** returns you to the start-up screen and offers four buttons (**source**, **video preview**, **modes**, and **control**). This provides a quick way to get back to normal operation, regardless of how deep you might be in the menu system.
- The **Trim** key takes you directly to the **system trims** screen in the menu system. Using the touchscreen or the remote control navigation keys you can adjust the speaker(s) as desired. Adjust the relative balance of the system by using the **Enter** key on the remote to "press" the appropriate button on the display.
- The **Zone** key brings up the Zone Control menu on the on-screen display, allowing you to make changes to the status, source or the volume of the remote zone.

6 F1/F2/F3/F4 keys

F1/F2/F3/F4 keys are available for controlling aspects of the SSP-300 not covered by the other buttons on the remote control. You are able to choose what the SSP-300 should do in response to receiving the infrared signal that a particular **Fkey** has been pressed. The list of possible functions is quite extensive, and is found in the menu system (see the section *The Menu System*, in this manual).

Note:

The Fkeys on all Classé remote controls issue the same infrared commands. This saves you from having to be sure you have grabbed the proper remote, since all your Classé remotes will perform the same function for each Fkey.

Understanding Surround Sound

Today's sophisticated surround sound systems seem to spawn a bewildering array of technologies and acronyms. In this section, we will attempt to give you a basic understanding of what all that jargon means. As a result, you will be better equipped to take advantage of the best that home entertainment has to offer.

how many channels?

Today's surround systems are called upon to reproduce soundtracks that were designed to include anything from one to seven separate channels of information. Some examples might include:

- watching *Casablanca* or *The Wizard of Oz* (both *mono* movies, having only a single channel of audio information in the soundtrack)
- listening to a CD in stereo (only two channels of audio)
- watching the original *Star Wars* in the original Dolby Surround Pro Logic (four channels of information derived from two channels)
- watching a modern movie, with a "5.1" soundtrack (meaning five different full-range signals for the front and surround speakers, plus a special ".1" signal of special Low Frequency Effects; for this reason, the ".1" channel is sometimes called the "LFE channel.")

Your new processor handles all these tasks with ease, switching to an appropriate processing mode automatically upon sensing the nature of the incoming signal.

However, sometimes it may be up to you to select from among the various signals available. For example, DVDs often contain multiple soundtracks, with varying numbers of channels or even different languages. You must choose the one you would like to hear, using the menu of the DVD itself. For that reason, it helps to have a better understanding of the jargon that is likely to be presented to you in those menus.

We'll cover the most common possibilities for you.

matrix or discrete?

When movie makers first wanted to expand beyond simple stereo (left and right audio channels only), they had a problem: the entire infrastructure on which they depended was stereo.

A company named Dolby Laboratories saved the day by creating a system called Dolby Surround that embedded two extra channels of sound in the existing stereo pair, in such a way that specialized circuitry could retrieve the extra information with reasonable accuracy. This technique, whereby channels are mixed together with the intention of separating them later, is called *matrix* decoding.

The disadvantage of matrix decoding is what you might expect – it is tough to completely and perfectly separate two things that have been mixed together. Once you have baked a cake, it is difficult to get back to the eggs and flour.

By contrast, modern soundtracks use *discrete* channels of information. That is, each speaker has a distinct signal that is completely independent of every other channel. This approach is clearly more desirable, since it gives the movie makers more creative control over the quality of your experience. Musicians also prefer discrete formats, since it allows them to place their instruments and voices with greater precision, to create the musical effects they desire.

There is a host of various multichannel formats available. Here is a summary grid to help you sort out the possibilities.

multichannel formats

Name	# Chs	Discrete?	Notes
analog stereo	2	yes	as found on almost all sources, including tape decks & CD players
multichannel in	6-8	yes	a multichannel analog input used mostly for SACD & DVD-Audio
Dolby Surround Pro Logic	4	matrix	the original matrix decoding system designed to squeeze four channels into two and then retrieve them
Dolby Digital (AC-3)	1.0-5.1	yes	the most common modern digital source, used in HDTV, DVD, etc.
Dolby Digital EX	6.1	mostly yes	the center rear channel is a matrixed channel hidden in the left and right surround channels; all others are discrete
DTS	1.0–5.1	yes	similar to Dolby Digital in practice, though it uses a different technology
DTS-ES Matrix	6.1	mostly yes	the center rear channel is a matrixed channel hidden in the left and right surround channels; all others are discrete
DTS-ES Discrete	6.1	yes	all 6.1 channels are discrete

post-processing possibilities

Once the SSP-600 has decoded the signal it is provided in the appropriate manner, you still have some options as to whether you would like additional processing of the signal.

This point is sometimes confusing. The first thing any surround processor must do is to recover the various channels that were intended to be delivered into your home. This might be a single mono signal, or a Dolby Digital Surround EX soundtrack with 6.1 channels, or anything in between; it may have been delivered to your home via a satellite receiver, a cable set top box, or a simple DVD disc. Regardless, the first task is to recover as many channels as are being delivered, with great accuracy and fidelity.

Having done so, however, it may make sense to provide further processing, after the fact. Hence the notion of *post-processing*.

For example: movie soundtracks are created in highly-standardized environments, in order to offer excellent performance in large, commercial theaters. Acoustically, your home is a radically different environment than that for which the movie soundtracks were optimized. Therefore it makes sense that you might want to compensate for the differences between the *intended* environment (a commercial theater) and your *actual* environment (a domestic living room or family room).

This compensation is provided by engaging the THX Ultra 2 CInema mode. It works in combination with any of the multichannel formats described in the previous section: Dolby Surround, Dolby Digital, DTS, etc. You should consider using it when watching any movie that was originally created for theatrical release, whether on DVD, broadcast television, or any other medium.

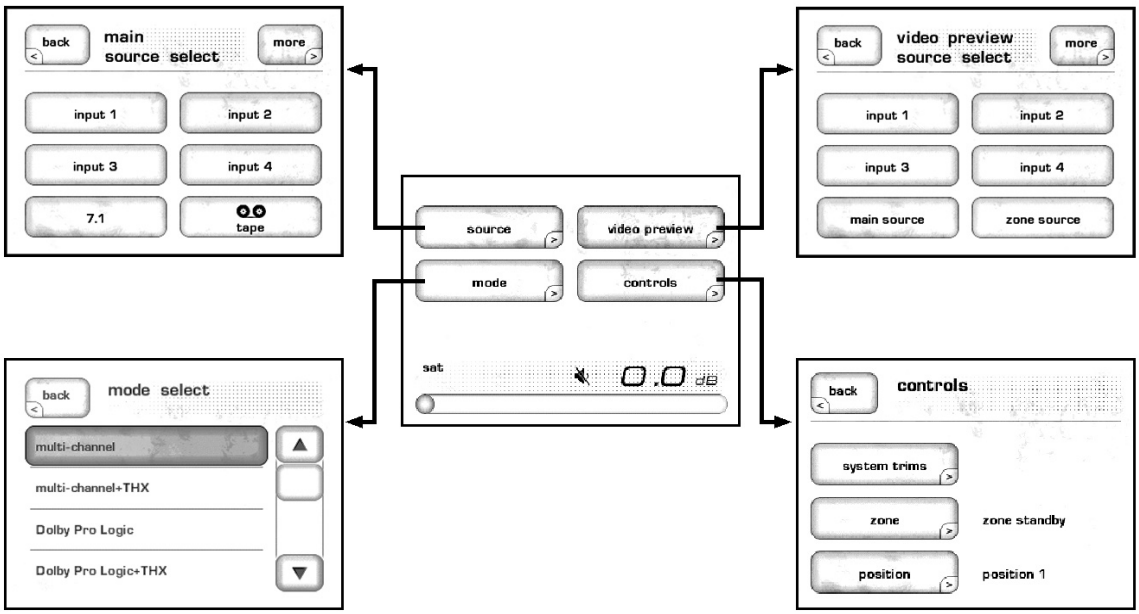
Here is a list of post-processing options provided by your surround processor.

multichannel formats

Name	Description
Dolby Pro Logic II	An improved version of the original Pro Logic matrix, which provides better perceived separation between channels and compatibility with both Dolby Surround encoded movies and unencoded music. Try listening to some of your CDs with DPL II – you may be surprised how well it creates a multichannel experience from a two-channel recording.
DTS Neo:6	Conceptually, DTS Neo:6 is similar to DPL II. However, the subjective differences are noticeable. People often prefer one to the other, though in our experience it is worth trying both on most recordings. Each seems to work better with some recordings than with others. Pick whichever you prefer. Experiment with Neo:6 when listening to regular CDs and other stereo music sources.
THX Ultra 2 Cinema	THX essentially created the standards for high-performance home theater back in 1991. THX Ultra 2 Cinema is the latest incarnation of their technology, designed to maximize your movie experience while minimizing the hassles. Use this for any movies originally created for theatrical release, and even for prime-time television that seems a little "bright" sounding – it was likely produced in a movie-standards mixing studio.
THX Ultra 2 Music	The needs of optimal multichannel music reproduction are somewhat different than those of movie reproduction. This post-processing option addresses those needs and is a great place to start when listening to almost any music source.

Note:

The THX Ultra 2 modes require the presence of rear channels in addition to the side "surround" channels. These speakers take advantage of THX's ASA technology to provide a higher-performance, particularly flexible and seamless surround soundfield.



Using the SSP-600

Your SSP-600 includes a versatile touchscreen LCD display which supports most of your day-to-day operations (as well as a flexible menu system for functions you use less often). While the use of this touchscreen is quite intuitive, it is also quite extensive. This section of the owner's manual outlines the use of this touchscreen in day-to-day operation of the system.

The main, **home** menu provides easy access to the most basic functions of the surround processor: source selection and mode selection. It also gives you the ability to "preview" a source prior to actually sending it to the main display of your home theater, and quick access to some controls you may use regularly. Finally, it provides both a numeric and a graphic depiction of the current volume setting.

source selection

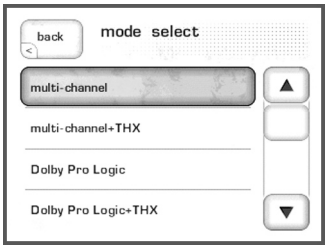
Pressing any of the source buttons on the touchscreen will activate the corresponding input. Note that the **more** button in the top right corner brings up a second page of sources, for a total of twelve.

If you do not have this many sources in your system, you can elect to deactivate any unused inputs. Doing so removes their associated buttons from the touchscreen, reducing confusion for occasional users of the system. If you have six or fewer sources, the second page (accessed by the **more** button mentioned above) will not appear. See *The Menu System* for details on deactivating unused inputs.

mode selection

While you can specify default surround processing modes for each individual input, you may occasionally wish to choose something other than the default for a particular recording. For example, when watching a classic movie from the 1940's, you may prefer to hear it in the original mono mode (using only the center channel speaker).

Touching the **mode** button brings up a scrolling list of the available surround modes.



Touching either of the **arrows** will cause this list to scroll in the direction you indicated. When you see the surround mode you want, touch its name in the list. The SSP-600 will immediately change its processing to meet your request.

You may then either touch the **back** button at the top left, or simply wait for the touchscreen to timeout and return to the Home Menu on its own.

video preview

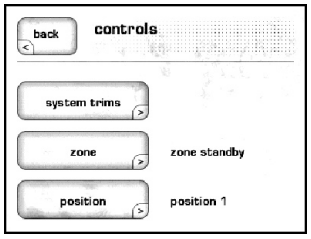
The **video preview** button on the Home Menu allows you to select a source that will be previewed on the LCD screen itself. This allows you to "cue up" a particular scene, or to get past the copyright warnings on DVDs, without your audience seeing anything other than what you would like them to see.

To use the video preview feature, touch **video preview** on the Home Menu, and then select the video source you wish to preview. When you are ready for the rest of the audience to see the source on the main display, simply select it as usual, in the Main Source Select menu.

Please note that the video preview feature does not support progressive video such as 480p and 525p, nor HD video standards such as 720p and 1080i.

controls

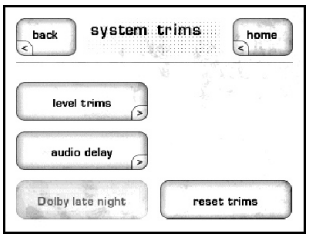
The Controls Menu offers user adjustments for a variety of processor functions, such as various system trims (audio levels, delays, etc.), control over the remote zone, and selection of your primary listening position.



You should think of these as temporary adjustments, similar to adjusting the volume control; if you want to recalibrate the audio levels because of an equipment change, you should do so in the Speaker Setup Menu, not here.

system trims

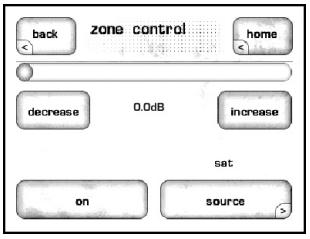
The System Trims menu controls several parameters of the SSP-600's operation that may occasionally need adjustment to suit a particular recording.



- **level trims** are provided for L/R balance, center, surround, rear speakers, and subwoofer. As an example, you might bump up the center channel speaker by 2-3 dB if the dialog in a particular movie is difficult to understand. **Note:** level trims for surround and rear speakers are grouped together as "surround".
- **audio delay** provides an overall ("lipsync") delay in cases where the video signal seems to be trailing the audio by a bit. (Note that the sensitivity of different people to this potential synchronization problem varies widely.) You may occasionally run into a DVD with this problem, due to inattentive mastering of the disc itself. If you perceive this problem most of the time, you should make the adjustment in the delay setting for that particular input, in the System Setup menu; if it seems related to a particular disc, make the adjustment here.
- **Dolby late night** mode offers intelligent moderation of the dynamic range in Dolby Digital recordings. This is especially useful when you want to watch a movie in the evening, but are concerned about disturbing either the neighbors or others in the household who might prefer to be sleeping during your action movie. This feature is specific to Dolby Digital soundtracks, and is grayed out (not available) when listening to other formats.
- **reset trims** allows you to reset everything to the defaults settings, as determined by the settings found in the System Setup menu. (Note that the defaults settings are also restored automatically whenever you change sources.)

zone control

The Zone Control menu allows you to turn the remote zone on and off, to select the source you wish to enjoy in the remote zone, and to adjust the volume of that source.

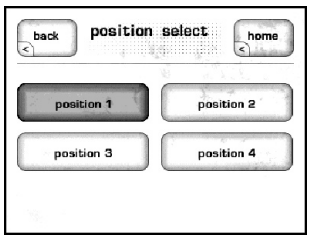


Touching the **decrease** or **increase** buttons will adjust the volume accordingly. (The volume knob will not adjust the volume of the remote zone.)

The **on** button toggles the remote zone between active (highlighted) and inactive (not highlighted). Finally, source selection is done through the familiar source selection screens, by touching the **source** button.

position select

The SSP-600 supports four different families of settings for various listening positions you may use. The Position Select menu allows you to easily choose among your various listening positions.

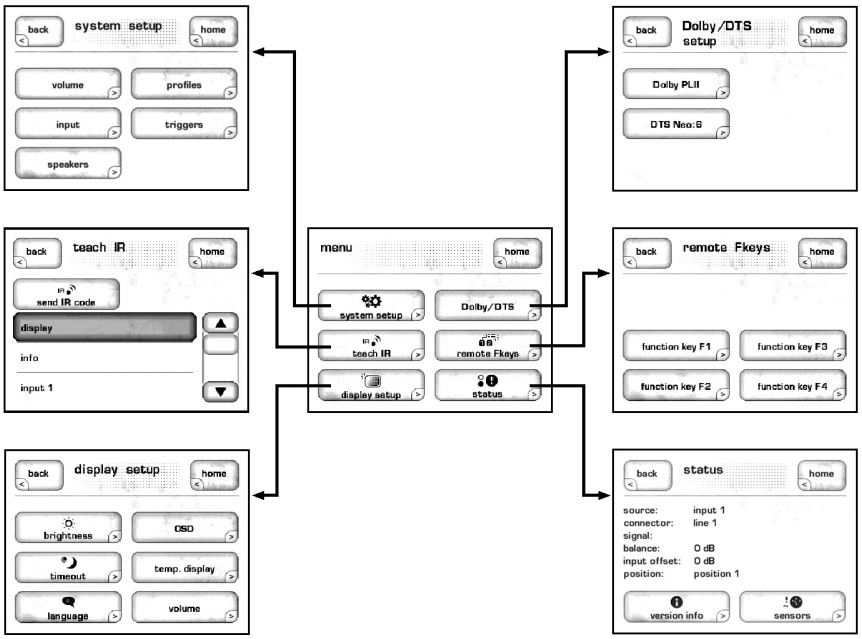


For example, you might use position 1 to optimize the sound for the seating arrangement you use when watching a movie, but have a different set of levels and delays (**position 2**) for when you are off to one side, sitting on a couch and listening to music while reading a good book.

These positions are configured in the Speaker Setup menu, described in the next section of this manual. The Position Select menu described here provides an easy way to take advantage of these different configurations.

The Menu System

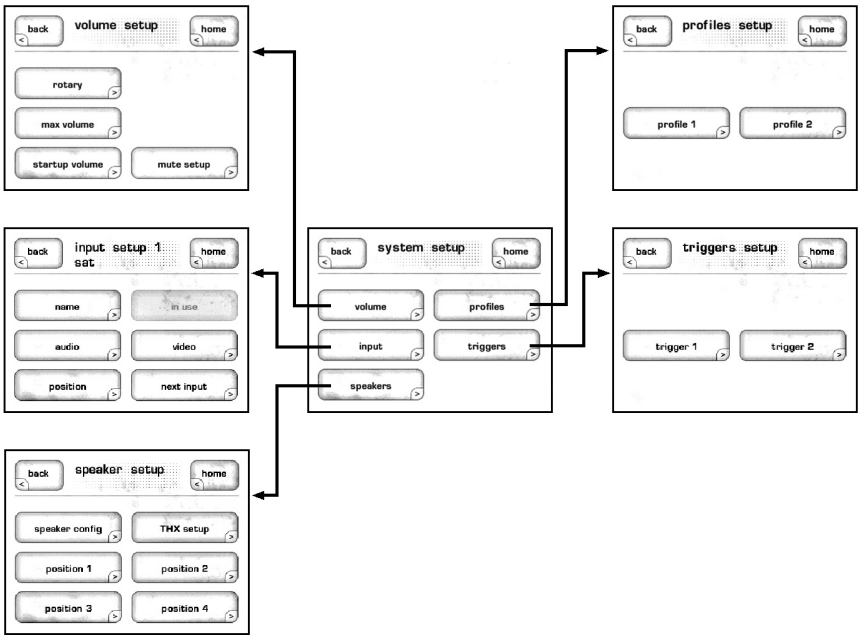
Pressing the front panel **Menu** button to the left of the LCD touchscreen brings up a comprehensive menu system, that is divided into a further six sections as shown below. When this button is pressed you may toggle between the "Menu" and the "Home" screens. For easy viewing during setup, the menu screens are always shown as an OSD (On Screen Display) on the main video outputs.



This menu system provides access to many installation-specific features that let you customize how the SSP-600 works within the context of your particular system. They are described in detail below.

system setup

The first button on the main menu takes you to a series of submenus that collectively provide a great deal of control over your system setup.



Here, you can:

- customize the behavior of your volume control
- tailor your inputs to your particular source components
- configure and calibrate the system to take best advantage of your loudspeakers
- create shortcuts to your preferred or most frequently used functions
- program the behavior of the SSP-600's DC triggers

volume setup

Touching the **Volume** button on the "system setup" screen brings up the "volume setup" screen. The buttons on this screen bring up other menu screens that let you:

- customize the behavior of the volume control
- set a maximum volume level
- control the volume level of the system when it is turned on
- customize the behavior of the mute control

rotary

The rotary knob on the front panel does not directly control the volume. Instead, it controls circuitry that does so with greater fidelity and precision than traditional volume potentiometers could ever achieve.

Since the volume control circuitry is under software control, it is possible to customize its behavior under various conditions. To better understand why this is so valuable, consider two scenarios:

> *Person A places a high value on precision in achieving exactly the volume setting that makes the music most realistic; being able to easily change volume setting by a fraction of a decibel is critical to his enjoyment of the system.*
>
> *Person B just wants to jump easily from low volumes to a reasonable listening level, and is less concerned with the finer points of precision than with getting what he wants with a quick twist of the knob.*

You can see the problem in these scenarios: Person A wants extremely fine gradations on the volume control, which will require many rotations to go from extremely low setting to normal listening levels; Person B wants to get from one to the other with a "quick twist" of the knob, requiring coarse gradations in order to cover so much range in so little space. What happens when Persons A and B live in the same house? Or if Person C wants to have both, depending on their mood at the moment? *(In fact, most of us are probably like Person C.)*

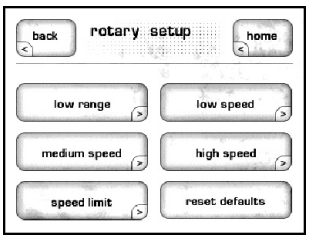
Classé solves this dilemma by altering the response of the volume control, based on several factors.

Since it is rare to listen at extremely low (barely audible) volumes, the *low range* adjustment of the volume control allows for faster response to knob input when the volume setting values are low. When activated, you will get from extremely low to middle volume control settings a bit faster than you would otherwise. This effect can be subtle, and may not even be desirable when the speakers used have extremely high sensitivity (since this results in using the lowest part of the range more than you would otherwise). As a result, the factory default setting for low range is *off* (set to zero).

The most significant factor in the perceived responsiveness of the volume control is the *speed* at which the knob is being turned. We all naturally tend to move volume knobs more quickly when we need to make a bigger change, and we tend to slow down as we approach our desired volume. Thus, if the SSP-600 sees the knob moving relatively quickly, it uses coarse steps to effectively accelerate the action of the circuitry. As the knob begins to turn more slowly, the SSP-600 will actually increase the resolution of the steps, which slows down the action of the volume control and yields greater precision in choosing an appropriate setting.

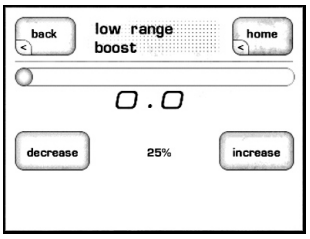
Of course, it is possible to bump into the knob by accident, which might result in its spinning very quickly indeed. Rather than increasing the volume uncontrollably under these conditions, the SSP-600 actually slows everything down again as a safety measure against accidentally blowing up your speakers. In fact, if you like you may establish a *speed limit* beyond which the knob will simply be ignored.

The factory default settings for these behaviors are generally found to be intuitive and a pleasure to use. However, if you prefer to alter these behaviors, you may do so in the rotary menu, shown below.



All of the rotary setup settings are interactive. You can set the value, and then adjust the volume to see whether the effect is what you desired.

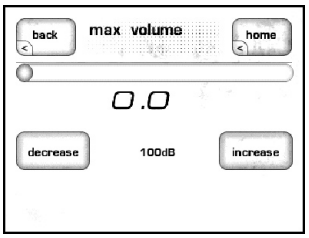
- **low range:** determines the degree to which the responsiveness of the volume control is *boosted* at low volume control settings, in order to get through them more quickly. A setting of 0 disengages the effect, while a setting of 100 maximizes it.



- **low speed:** determines the responsiveness of the control when the knob is being turned slowly. A setting of 0 will cause the volume to change as slowly as possible at low knob speeds; a setting of 100 will cause the volume to change as quickly as allowed at low knob speeds. *(The menu is the same as the one above except for the indication that it is for the "low speed" adjustment.)*
- **medium speed:** determines the responsiveness of the control when the knob is being turned at a moderate speed. A setting of 0 will cause the volume to change as slowly as possible at medium speeds; a setting of 100 will cause the volume to change as quickly as allowed at medium knob speeds. *(The menu is the same as the one above except for the indication that it is for the "medium speed" adjustment.)*

- **high speed:** determines the responsiveness of the control when the knob is being turned slowly. A setting of 0 will cause the volume to change as slowly as possible at high knob speeds; a setting of 100 will cause the volume to change as quickly as allowed at high knob speeds. *(The menu is the same as the one above except for the indication that it is for the "high speed" adjustment.)*
- **speed limit:** establishes a maximum rotary speed, beyond which there will be no change in volume whatsoever; the knob's input will be ignored completely until it slows down below the speed limit.
- **reset defaults:** if after experimenting with various settings you decide you prefer it the way it operated as it came from the factory, pressing this button will restore the factory default settings. So feel free to experiment – you can always return to the original settings.

max volume



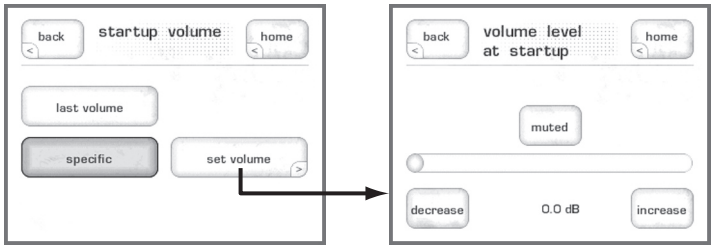
The maximum volume screen allows you to establish a maximum volume setting for your system. This scale runs from 0 to 100, with 100 indicating that you do not want any artificial limit placed on the maximum gain your surround processor can provide.

This setting is interactive. You can set the value to something less than 100, and then adjust the volume to see whether it is appropriate. *(The volume knob itself does not set the maximum volume; you must do so in the menu itself.)*

startup volume

Here you may select the level you prefer after the units wakes out of standby. This can be configured 2 different ways:

- **last volume** is the last level selected before the unit was powered down. Furthermore, the status of the mute will be remembered.
- **specific** allows you to select a favorite level with the mute on or off.



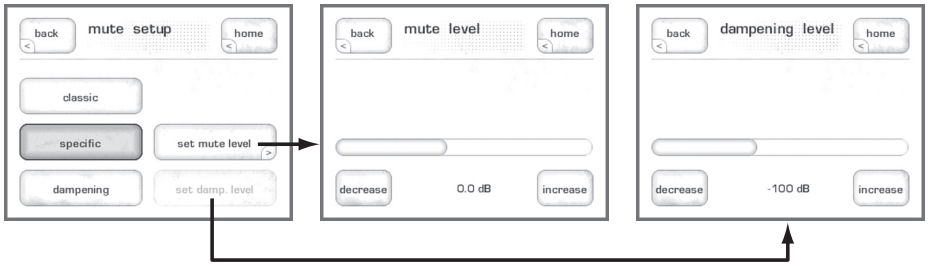
mute setup

Here you can choose how you want the **mute** button to function.

- **classic** - When the **mute** button is pressed no audio will be heard.

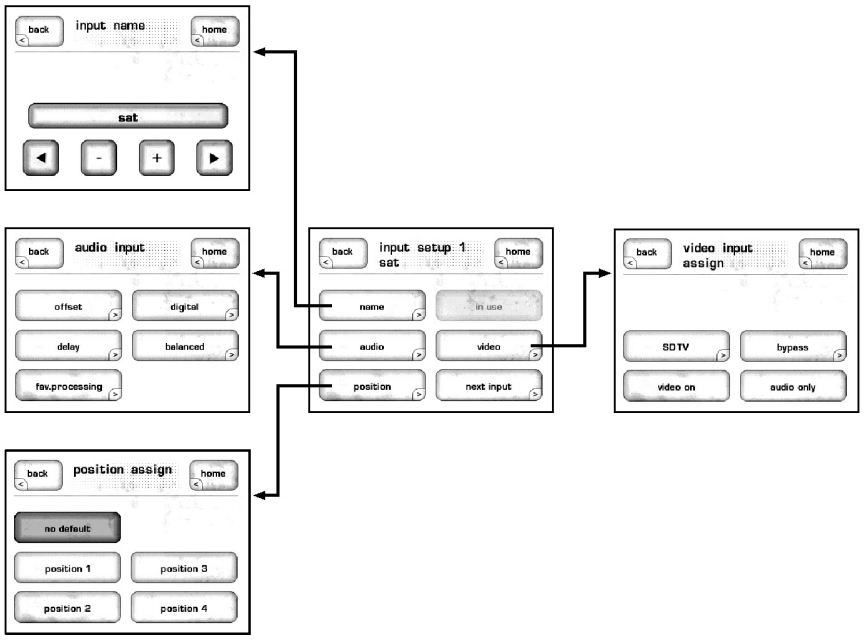
The next two choices are useful in situations where you wish to still hear the audio source but temporarily reduce the volume to a lower level. For example, let's say you are watching a football game and the phone rings. You need to take the call but would still like to monitor the progress of the game...

- **specific** - allows you to choose an exact level the audio is attenuated to irregardless of the current setting.
- **dampening** - allows you to reduce the current listening level by the specified amount.



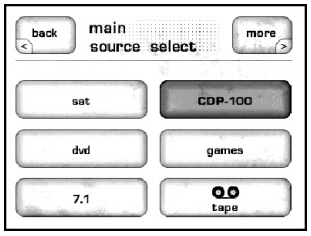
input setup

Each input on your surround processor can be customized in several ways to enhance either the performance or the ease of use of the system. A quick look at the input menu and submenus gives you an overview of what is possible:

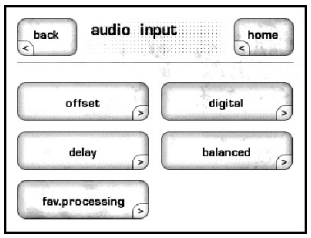


The **name** button provides a way to customize the names of the inputs as displayed on the input selection screens. For example, you might want to name an input "CDP-100" for the Classé CD player you might have connected there. To do so, use the four buttons along the bottom of the Input Name menu to change the default name of any given input to something more specific to your system, as follows:

- The **left** button acts like the backspace key on a computer keyboard, moving the cursor to the left and eliminating any characters along the way.
- The **right** button moves the cursor to the right, adding characters along the way. (Change each character to what you want as you go along, using the **+** and **—** buttons.)
- The **+** and **—** buttons change the current character through the available characters. They include all upper and lower case letters of the alphabet, the numbers 0-9, and a variety of punctuation. When done, your main display might look like this:



Touching the **audio** button gives you control over a wide variety of settings which affect how the audio from this source will be handled.

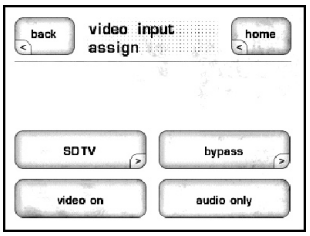


- **offset** is used to ensure that all analog sources are played back at comparable levels. There can be significant differences in output levels among analog sources (this is not a problem with digital sources); this can lead to unexpected changes in volume when switching among them. The SSP-600 provides an adjustment range of from -5 to +10 dB.
- **delay** establishes an overall delay (added to all channels) for the audio so as to match it more closely with a delayed video signal. This addresses the "lip sync" problems often found with modern digital televisions, whose sophisticated video processing introduces a delay in the picture you see. If you see a consistent problem in this regard, this is the place to address it. If you see a problem that seems specific to a particular disc, it is better addressed in the Home menu (home/controls/system trims/audio delay). The SSP-600 will automatically revert to this default setting when you change inputs, or if you touch the **reset trims** button.
- **favorite processing** determines what surround mode the SSP-600 will use by default when it receives either a two channel ("stereo") or a multichannel signal from this source. For example, you may want to use Dolby Pro Logic II Music as the default mode for stereo signals from your CD player, while preferring plain two-channel reproduction for the signal from your FM tuner. Touching either the **2-channel** or the **multichannel** buttons will bring up a list of the available surround processing modes for the chosen signal type, from which you may select your preferred default setting for this source.
- the **digital** button takes you to a screen where you can specify which digital connection you wish to use with this source. The SSP-600 has four coaxial digital inputs, two optical Toslink™ inputs, and one balanced digital AES/EBU input, all of which are assignable to any source button you choose.

- the **balanced** button allows you to define how you want the balanced analog input on your SSP-600 to work. By selecting **DSP enabled**, the SSP-600 will convert all the incoming balanced analog signals to digital for further processing. If you prefer to pass your balanced signals through the SSP-600 unaltered, except for volume control , choose **analog bypass**. **Note:** when analog bypass is selected the 7.1 single-ended outputs will be muted.

The **position** button allows you to assign a default position setting (a collection of level and delay settings) to a particular input. (This default setting can be temporarily overridden at any time in the Home menu.)

The **video** button takes you to a menu in which you can specify what type of video signal (if any) the source being set up will supply.



- **SDTV** ("standard definition television") takes you to a scrolling list of the available video connections appropriate for standard definition (480/60i or 525/50i), so you can specify which connection you will use with this source. These include four composite, five S-video and three component video connections.
- **video on** toggles on (highlighted) and off (not highlighted) as you touch the button. Select this button to turn on a video source. **Off** will mute all video output for this input.
- **bypass** is used with the component video connections only, and is used with high definition (HDTV) sources for the purest possible signal path, with the widest possible bandwidth (in order to preserve all the detail these broadcasts have to offer). If you have a HD source such as HD satellite or cable, connect it via one of your component inputs and select **bypass** to ensure that the signal is passed along to your display without any alteration.
- **audio only** toggles on (highlighted) and off (not highlighted) as you touch the button. Choosing audio only allows the user to select a source that is audio-only (such as a tuner) while allowing the user to continue viewing the previously selected video source.

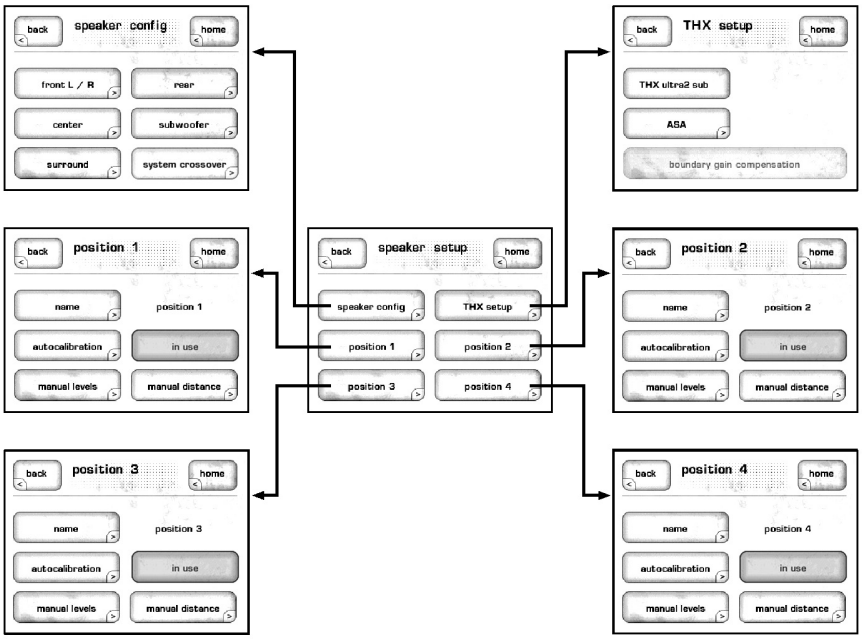
If you assign both **SDTV** and **bypass** video connections for a particular input, the bypass connection will be used for the main output of your system, and the SDTV signal will be used for all composite and S-video outputs.

For example, many progressively-scanned DVD players support both a progressive component output and interlaced composite/S-video outputs at the same time. By defining both connections and wiring the system accordingly, you can enjoy the high quality progressive output on your main display while also being able to route the standard definition version of the same signal to a remote zone or other component.

The **next input** button simply moves you along to the next input, so as to allow you to perform the initial setup of your processor more efficiently.

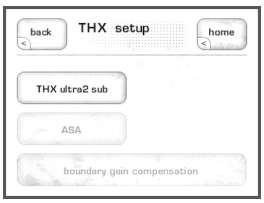
speaker setup

The Speaker Setup menu (found via the following path: system setup/speakers) allows you to tell the SSP-600 about the speakers with which it is working, so it can provide the best and most appropriate signals to each speaker.



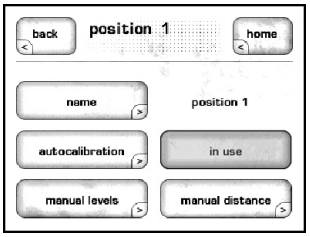
- **speaker config** allows you to customize your speaker configuration and set up the bass management within the SSP-600. Each group of speakers (other than the subwoofer) can be specified as **large** *(meaning "capable of handling any low frequency that might exist in that channel's signal")*, **small** *(meaning "might be overloaded by loud, low frequency information that might exist in that channel's signal)*, or **none** *(meaning "my system does not use these speakers")*. If you set the **surround speakers** to **none**, the **rear speakers** button will not be available.
  - **subwoofer configuration**, available from the Speaker Config menu, is where you determine whether you have a subwoofer in the system. If you engage **sub enabled**, the LFE (Low Frequency Effects) information in many movie soundtracks will be routed to it, along with any bass information from speakers you designated as "small." If you do not have a subwoofer, all such bass information will be routed to any speakers you designated as "large." If you prefer to send all such deep bass information to all speakers that are designated as "large" *as well* as the subwoofer, engage both **sub enabled** and **e-bass** ("enhanced bass").
  - **system crossover** determines the frequency below which signals will be re-routed away from any speaker designated as "small." The default THX setting for this crossover (which should be used if you are using THX-certified loudspeakers) is 80 Hz. You may choose any frequency from 40-140 Hz, in 10 Hz increments. There is also a crossover on/off toggle in the system crossover screen. Be sure it is on (highlighted) if you have any "small" speakers in your system.

- **THX setup** sends you to a screen in which you can configure some THX-specific features.



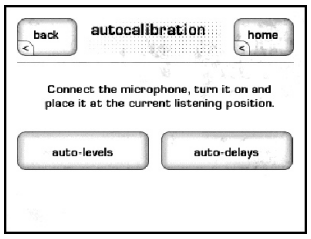
Specifically:

- **THX Ultra 2 sub** should be engaged if you are using a subwoofer that is certified by the THX Ultra 2 standard. Such subwoofers are essentially flat to 20 Hz under what might be considered worst-case acoustic conditions for bass, and have prodigious output capability. If you select the **THX Ultra 2** sub button, you will also notice that the otherwise grayed-out boundary gain compensation button becomes available. (See below.)
- **ASA** stands for Advanced Speaker Array, and engages a proprietary THX technology that provides outstanding flexibility and performance in your surround sound array. This button will take you to a submenu in which you specify that your rear speakers are **together** (less than 1 foot apart), **close** (between 1-4 feet apart), or **apart** (more than 4 feet apart). In an ASA surround system, the ideal situation is one in which the rear speakers are almost touching each other, and you have selected together. This allows the ASA processing to create the most seamless and versatile surround sound field.
- **boundary gain compensation** will adjust for the fact that most of us do not suffer from the worst-case acoustic scenario that THX Ultra 2 subwoofers can handle. If you have such a subwoofer, and it is placed within 3-4 feet of at least one wall, engage the **boundary gain compensation**. It will correct for the acoustic reinforcement your room is providing to the subwoofer in order to yield the flattest, most accurate bass.
- **positions 1-4** are the menus in which you can create and recall families of speaker level and distance measurements for later use. You might have one position defined for the seating arrangement used for standard movie viewing, and another for when you are sitting by the window reading a good book.



Positions can be enabled or disabled as required by going to the system setup/speakers/position menu. If the position in question is highlighted, it is available for use. If it is not highlighted, it has been disabled to prevent accidental use.

- The **name** of each position can be specified in the same way that sources are. (See *input setup* earlier in this section.)
- **autocalibration** uses the provided microphone to calibrate the system automatically for optimal performance in each of these four positions.

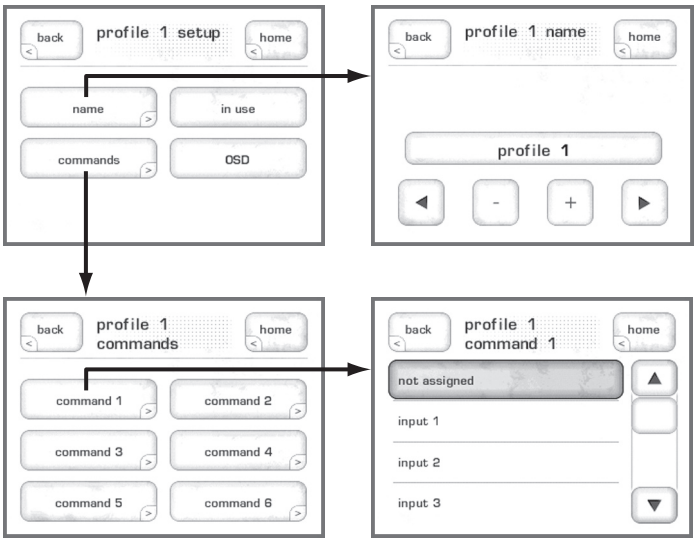


Simply plug in the microphone to the **mic** input on the rear panel, place the microphone at the desired position, and then press **auto levels** and **auto delays** in turn, allowing the SSP-600 to run its tests and establish the correct settings for you.

- **manual levels** adjusts the speakers levels manually as you might have done with other surround processors. A noise sequencer is available to provide a reference signal for adjustment purposes. Holding a dB SPL meter at the listening position, at arm's length, and pointing straight up at the ceiling, adjust the level of each speaker in turn until it reads 75 dB SPL when the meter is set to "C" weighting and Slow response.
- **manual distance** adjusts the distances settings manually as you might have done with other surround processors. Simply measure the distance with a tape measure or equivalent, and enter the distance into the menu. The SSP-600 will automatically convert this distance to the appropriate delay.

profiles

This design feature is intended to allow the user to create a number of shortcuts to various functions of your surround sound processor. Two separate profiles, with up to six commands for each can be created. Additionally, a new name, up to 14 characters long, can be assigned to these two buttons. Once the "in use" button is highlighted, the new profile button will appear on the home page. You can also assign OSD to these preferences.

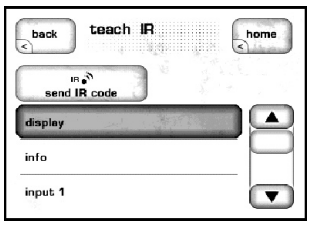


triggers setup

Each of the SSP-600's DC triggers may be programmed to either "logic" (12V) or "inverse logic" (0V) settings. The ability to change the way the trigger operates can solve installation-specific problems that otherwise require external devices that add to both the cost and complexity of your system.

For more information on the use of DC triggers, we recommend you speak with your authorized Classé dealer.

teach IR



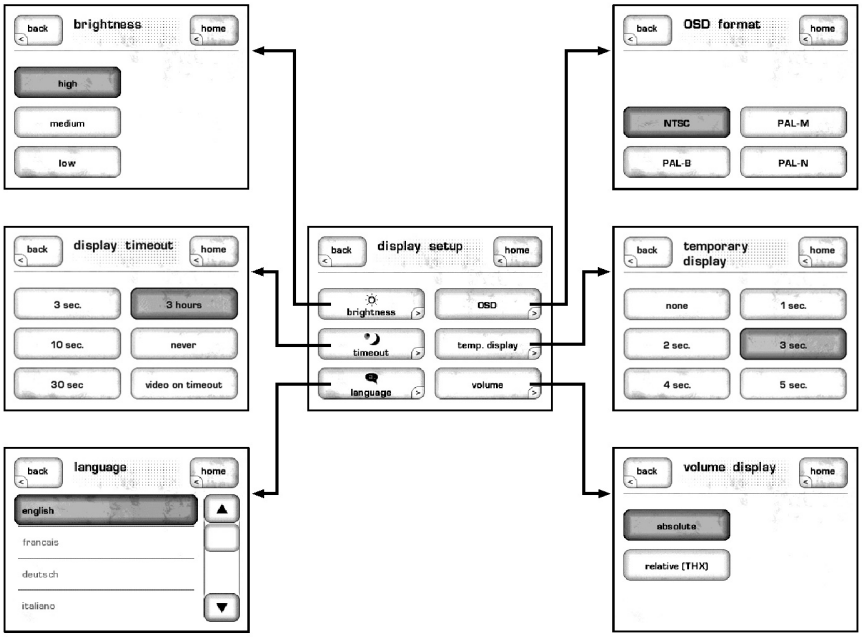
The SSP-600 provides discrete infrared (IR) command codes for all its functions, a list that extends far beyond what is required by normal remote controls. However, many of these functions are critical if you plan to create a customized remote control with macros that take command of your entire system. Without these discrete codes, many of the macros you might want to create will simply not work reliably.

The **teach IR** screen provides a scrolling list of all the available IR codes in the SSP-600. By scrolling to the command you need to learn into your macro-capable remote, and then pressing the **send IR code** button, the SSP-600 will continue to send the appropriate command code out of its front panel-as long as the button is pressed–where it can be learned by your third-party remote control.

For more information on such control systems, we recommend you speak with your authorized Classé dealer.

display setup

This button brings up the **display setup** menu. It allows you to configure the SSP-600's LCD screen *brightness*, the display *timeout*, and the *language* used in the touchscreen and menu system. It also determines the format of your OSD (on-screen display), how long the temporary display lasts on your main television (e.g., the message that appears on your television when you change inputs or volume), and how volume settings are displayed on your system.



brightness

The **brightness** setting of the SSP-600 has three possible values: *low, medium,* and *high*. Select the appropriate setting based on the level of ambient light typically found in your listening room while using the system. A *high* brightness setting usually works best in brightly-lit rooms; you may find that a lower setting is less visually intrusive under more subdued lighting conditions.

timeout

If you prefer listening to music in a dimly-lit or darkened room, you may find even the *low* brightness setting of the display somewhat distracting. If so, you can vary the **timeout** of the backlighting so as to turn it off entirely after a period of inactivity you select.

In this context, activity refers to any use of the user interface. This includes hard buttons, the LCD touchscreen, and the remote control.

For example, if you reduce the timeout to its minimum setting, the backlighting will illuminate the display as soon as you interact with any of the SSP-600 controls, and stay on for only three seconds–just long enough for you to check on something. If you continue to use any of the controls (at least once every three seconds), the display will remain lit. It will then extinguish itself after three seconds of inactivity on your part. Or if you prefer, instead of a blank screen, after selecting the time in which the LCD will turn off, and then selecting "video on timeout," the main video source will be shown on the LCD.

If you prefer the display of the SSP-600 to remain on whenever not in *standby*, choose the *never* timeout setting. The lamp in the LCD display was designed for harsh automotive environments and will give you many years of reliable operation. If you plan to leave the unit on continuously, however, we recommend that you keep the timeout delay set to less than one minute. *(Note that setting the brightness to a lower setting does not increase the life of the lamp.)*

language

The **language** menu offers you any of six different languages supported by the SSP-600. Classé has provided our international distributors with a software tool that makes it possible for them to customize the translations to suit their local customs and terminology, in an effort to ensure that the SSP-600's operation is as intuitive to use in every country as it is in our home country of Canada.

OSD

Touching the OSD button takes you to a screen on which you can select the video system used in your country, so that the SSP-600 can create a compatible on-screen display. The four choices are NTSC, PAL-B, PAL-M, and PAL-N. Your local Classé dealer can assist you with selecting the appropriate setting if you have any doubt.

Important Note!

While choosing an incorrect OSD format will not damage any equipment, it may disrupt your television's ability to display a picture for the duration of the OSD's operation (typically a few seconds). You can easily reset the OSD format to the correct setting by using the LCD touchscreen display on the SSP-600, which will always operate correctly.

temp. display

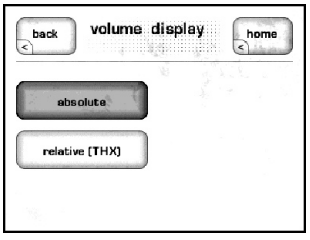
The **temp. display** button leads to a screen on which you may select how long the temporary on-screen display shown on your television lasts when you make a change to the SSP-600. Your choices are none (effectively turning off these small OSD messages on the television), and 1, 2, 3, 4, or 5 seconds.

NOTE:

Anytime there is a status change, the temporary display will appear at the bottom of the main video output screen and over the menu screen. The menu screen will appear slightly darker or "muted" in color. When this occurs, no selections can be made until the temp. display turns off.

volume

There are two common ways of displaying the volume information in a multichannel system.



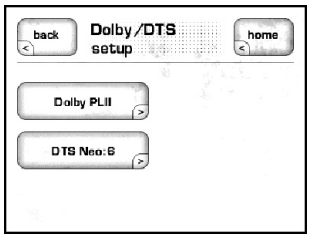
The **absolute** system refers to the notion that most people thinking of the number 0 as meaning nothing, e.g., no sound at all. In this system, 0 means "sound off" and larger numbers indicate high volumes. While this is intuitive, the only way you have any idea how loud a particular setting is would be through experience.

In the **relative (THX)** system, there is a calibrated, reference volume at which movies are played in theaters, which is duplicated in your environment and referred to as "0 dB." Regardless of how large or how small the theater, a setting of "0 dB" is always the same, known volume. Changes from that volume level are shown as either positive (louder) or negative (quieter). People who have spent any time making recordings will recognize that this is similar to the notion of "0 dB" on a record level meter.

In any event, you may choose either system depending on which one makes the most sense to you personally.

Dolby/DTS setup

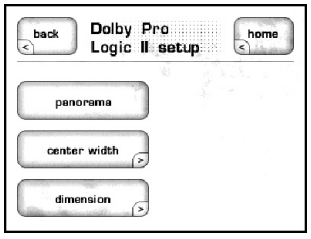
The SSP-600 incorporates both Dolby Pro Logic II and DTS Neo:6 technologies for converting a two-channel signal into an enjoyable multichannel listening experience.



While they differ in the details of their implementation and in the subjective result, on a conceptual level they do the same thing: they analyze the information embedded in two-channel recordings, looking for clues that can indicate how the sound in those recordings might best be redistributed to the various speakers in a multichannel system, so as to simulate a discrete multichannel recording. Each has one or more adjustments available to let you customize the performance of the processing to best suit your personal preferences.

Dolby Pro Logic II

Dolby Pro Logic II has three user-adjustable parameters.



Panorama is a simple on/off toggle (highlighted means "on") that will present a wider and deeper front soundstage. This effect is somewhat signal-dependant, meaning that it is more pronounced with some recordings and less so with others. With a good recording, however, the effect an be quite dramatic.

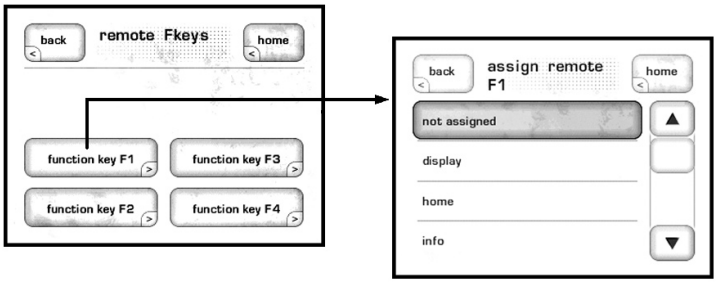
Center Width determines how much of the center-channel information is allowed to remain in the left and right speakers. A low setting places all the information that would create a phantom center image in a normal stereo system in the center channel speaker instead. *(This is sometimes referred to as a "hard" center channel.)* A high setting leaves this information in the left and right speakers, fading out the center channel speaker. Intermediate settings provide a great compromise between the seamless spaciousness of a great stereo system and the wide listening area of a multichannel system (where you don't need to be in the "sweet spot" to hear a center image).

Dimension shifts the degree to which the overall balance of the processing is biased toward the back of the room. In very "dry" recordings that lack much recorded ambience, a higher dimension setting will restore a sense of space to the reproduced sound. In extremely "wet" recordings with lots of ambience, you may want to reduce the dimension setting so as to avoid excessive or distracting spaciousness.

DTS Neo:6

By contrast, the DTS Neo:6 setting couldn't be simpler. The only user-adjustable parameter for DTS Neo:6 is the center width control, which functions much as the center width control does for Dolby Pro Logic II.

remote Fkeys



The remote control supplied with the SSP-600 has four **function** keys (**Fkeys**) that allow you to have instant, easy access to specific system functions that might otherwise be buried in a menu somewhere.

For example, if you use the balance control frequently, you may want to consider programming one of the **Fkeys** to take you straight to that screen. Doing so will save you having to access the control menu, followed by pressing the **balance** button *(which might be hard to see from across the room)*.

The **remote Fkey** menu has four buttons, one each for the four **Fkeys** on your remote control. Pressing any of these buttons on the LCD touchscreen takes you to a subordinate, scrolling list of possible functions for that particular **Fkey**.

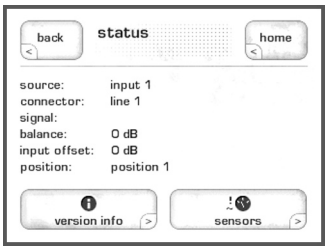
Selecting the one you want is as simple as scrolling through the list (by touching either the up or down arrows on the right), and then touching the specific function in the list that you want that **Fkey** to perform.

cautionary note on Fkey use

Note that all Classé remote controls provide these same four **Fkeys**, so that you need not worry about which remote you happen to pick up. Thus **F1** on the surround processor's remote control sends the same infrared signal as **F1** on the CD player's remote control.

While this is intended to minimize confusion amongst different remotes (since this aspect of them will all perform identically), you should take care when assigning different functions on different components to the same **Fkey**. Doing so would result in two components doing two different things at once, in response to a single press of a button on the remote control. This can sometimes be useful. As an example, **F1** could set the surround processor to the **CD** input, and also set the CD player to **Play**, both from the press of a single **Fkey**.

status



The **status** screen provides several items of information about the current operation status of the SSP-600, as well as access to information on the software used in and the internal sensors of the SSP-600.

version info

The **version info** button on the status screen takes you to the v**ersion information** screen, which displays information on various pieces of software used by your SSP-600. If you ever have occasion to call our technical support people to ask a question not covered in this manual, they may want to know precisely what version of software your unit is running. Having this information available will help enable them to give you the best possible service.

sensors

The **sensors** button on the status screen takes you to the **sensors** screen, which displays information about several internal sensors within the SSP-600. It is unlikely you might need the sensor information, unless directed to do so by a customer service representative at Classé in order to help troubleshoot some unexpected problem.

Troubleshooting

In general, you should refer any service problems to your Classé dealer. Before contacting your dealer, check to see if the problem is listed here. If it is, try the suggested solutions. If none of these solves the problem, contact your Classé dealer.

1 Everything appears to be on, but there is no sound.

- ✓ Adjust the volume control to a moderate level (one that should be audible but is not excessive).
- ✓ Make sure the source component for which the input has been selected is switched on and is out of its standby mode.
- ✓ Make sure the proper input has been selected for the source being used.
- ✓ Check that the surround processor is not in mute mode.
- ✓ Ensure that the power amplifier is powered up and out of standby mode.
- ✓ Check if the tape monitor is enabled. If it is engaged and the recorder is off, you will not hear the selected source. Disengage the tape monitor unless you wish to monitor the recording.
- ✓ If the problem occurs only with a particular input, check the interconnect cables between that source and the surround processor.
- ✓ If the problem occurs with all inputs, check the cables between the surround processor and the power amplifier. If no fault is found there, check the speaker wires for secure connections.

Important! **Check that the power amplifier is off before checking any connections between the surround processor and power amplifier, or between the power amplifier and the speakers.**

2 There is no sound and the Standby LED is not lit.

- ✓ Ensure the surround processor is plugged into the AC mains and switched on, and that the AC mains are operating normally. The unit will automatically attempt to protect itself from improper AC mains voltages by not powering up. Make sure your power amplifier is off (if the amplifier is already connected to the surround processor) before plugging your surround processor into the AC mains and powering it up.
- ✓ If your surround processor was plugged in properly, try the following: put it in standby, switch off the main power switch on the back, and unplug the unit for at least thirty seconds before trying to power it up again. (Sometimes a brownout of short-term loss of power might require a restart.)

Important! **Make sure to power down your power amplifier BEFORE doing the restart.**

- ✓ Check the manual levels setting within the associated position, at system setup/speakers/(applicable position)/manual levels/(select the channel) and then use the increase or decrease buttons to adjust the channel in question
- ✓ If none of these solutions work, please consult your Classé dealer for assistance. Never attempt to replace an internal fuse. There are no user-serviceable parts inside your unit.

3. Only one speaker seems to be playing.

✓ Does the problem occur with all inputs? If so, check the interconnect cables between the preamp and the power amp. If no fault is found there, check the speaker wires for secure connections.

Important!

Be certain that the power amplifier is off before checking any connections between the surround processor and power amplifier, or between the speakers and the power amplifier.

✓ If the problem occurs only with a particular input, check the input balance control setting of that particular input:

menu ⇨ system setup ⇨ input ⇨ *input name* **⇨** *balance*

where *input name* is the particular input in question.

✓ If the input balance appears to be correct, check the interconnect cables between the corresponding source component and the SSP-600.

4. The IR remote control seems not to function.

✓ Ensure that there are no obstacles between the IR remote and the IR sensor (located to the right of the Mute button).

✓ If the batteries are weak, replace them with fresh ones.

5. There is a hum coming out of the speakers.

✓ If you are running single-ended interconnects, make sure they are not running alongside any AC power cords.

✓ If you are running single-ended interconnects, make sure they are not too long. Long runs of single-ended interconnects have a natural tendency to pick up noise even if they are shielded.

✓ If any source components connected to your surround processor has a cable TV hooked up to it, try disconnecting the cable television line from the source. If the hum goes away, you will need an isolation device between your cable and that particular source. Refer to your Classé dealer for one of these inexpensive devices.

6. There is a hum coming from the unit.

✓ This symptom suggests you have a lot of DC offset or other artifacts on your AC mains line. Try connecting to another AC circuit (not merely a different plug, but a different circuit).

✓ Check to see if you have any halogen lighting or dimmers on the same circuit as the surround processor, as they can be the cause of hum in power supply transformers.

7. Two pictures appear on the main video screen.

✓ If a progressive scan signal, such as from a DVD player component output, is configured as an SDTV input, two pictures will appear on the screen. Either change the output of the source to SDTV (interlaced) video, or change the configuration of the component video input to bypass.

Care & Maintenance

To remove dust from the cabinet of your surround processor, use a feather duster or a lint-free soft cloth. To remove dirt and fingerprints, we recommend isopropyl alcohol and a soft cloth. Dampen the cloth with alcohol first and then lightly clean the surface of the surround processor with the cloth. Do not use excessive amounts of alcohol that might drip off the cloth and into the surround processor.

Caution!

At no time should liquid cleaners be applied directly to the surround processor, as direct application of liquids may result in damage to electronic components within the unit.

Specifications

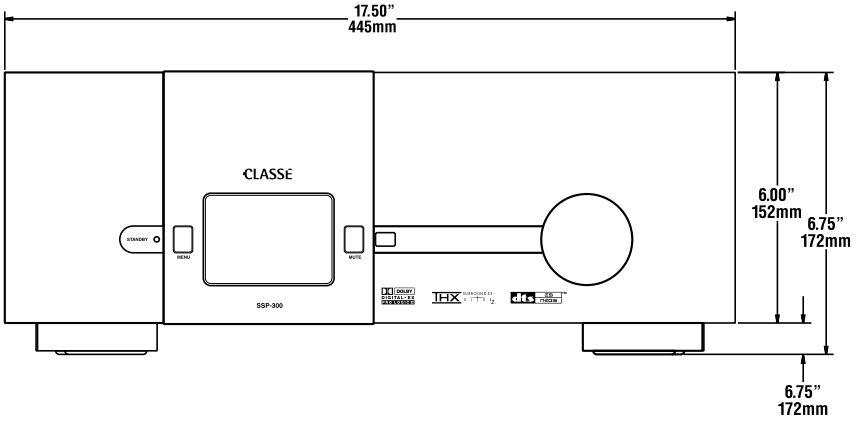
All specifications are accurate at the time of printing. Classé reserves the right to make improvements without notice.

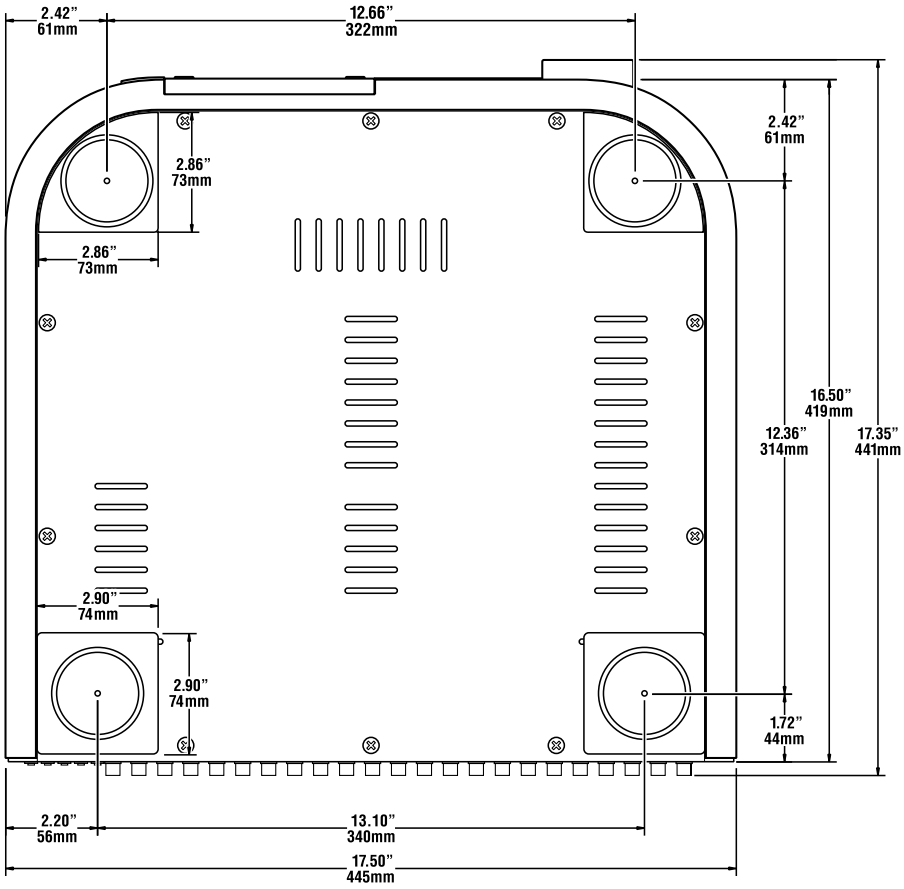
Frequency response	DC – 200kHz ± 0.1dB
Distortion *(THD + noise)*	0.003%
Maximum input voltage *(single-ended)*	5Vrms
Maximum input voltage *(balanced)*	10Vrms
Maximum output voltage *(single-ended)*	10Vrms
Maximum output voltage *(balanced)*	20Vrms
Gain range	-100dB to +14dB
Input Impedance	100kΩ
Output Impedance *(main output)*	100Ω
Signal-to-noise ratio *(ref. 10Vrms input)*	100dB
Channel separation	better than 100dB
Crosstalk *(any input to any output)*	better than -120dB @ 1kHz
Rated power consumption	30W
Idle power consumption	29W
Mains voltage	determined by the needs of country for which the unit was manufactured; cannot be reset by dealer or user
Overall dimensions	Width: 17.5” (445mm) Depth: 16.5” (419mm) Height: 6.75” (121mm)
Net weight	45 lbs (21 kg)
Shipping weight	54 lbs (25 kg)

For more information, see your Classé dealer, or contact:

Classé Audio
5070 François Cusson
Lachine, Quebec
Canada H8T 1B3
Telephone +1 (514) 636-6384
FAX +1 (514) 636-1428
Internet: http://www.classeaudio.com
email: cservice@classeaudio.com

Dimensions


17.50"
445mm
CLASSÉ
SSP-300
6.00"
152mm
6.75"
172mm
6.75"
172mm


2.42"
61mm
12.66"
322mm
2.42"
61mm
2.86"
73mm
2.86"
73mm
16.50"
419mm
12.36"
314mm
17.35"
441mm
2.90"
74mm
2.90"
74mm
1.72"
44mm
2.20"
56mm
13.10"
340mm
17.50"
445mm

CLASSÉ

Classé Audio
5070 François Cusson
Lachine, Quebec
Canada H8T 1B3

+1 (514) 636-6384
+1 (514) 636-1428 (fax)

http://www.classeaudio.com

email: cservice@classeaudio.com

North America: 1 800 370 3740
email: classe@bwgroupusa.com

Europe: 44 (0) 1903 221 700
email: classe@bwgroup.com

Asia: (852) 2790 8903
email: classe@bwgroup.hk

All Others: +1 514 636 6394
email: cservice@classeaudio.com